# All Products
# 3/15/2023

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| | SEALED AIR CORPERATION | |

# MATERIAL SAFETY DATA SHEET
# TRIM® E206

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name** TRIM® E206

**Material type** Long Life Emulsion

**Classification/synonym(s)** Chemical emulsion/Soluble oil

**Product use** Coolant and lubricant in metal removal processes

**Manufacturer address** MASTER CHEMICAL CORPORATION
501 West Boundary
Perrysburg, OH 43551-1200

**Emergency telephone** 419-874-7902 **Fax number** 419-874-0684

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOM. | CAS # | %RANGE |
|---|---|---|---|---|---|
| Severely hydrotreated petroleum oil | 5 mg/m$^3$ (mist) | 5 mg/m$^3$ (mist) | none | 64742-52-5 | 40-50 |
| Triethanolamine | none | 5 mg/m$^3$ | none | 102-71-6 | 1-10 |

The exact chemical identities and percentages of the raw materials used in TRIM® E206 are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

## 3. HAZARDS IDENTIFICATION

**Emergency overview** Dark blue liquid
No immediate hazard
Fire may produce oxides of carbon, nitrogen, and sulfur

**POTENTIAL HEALTH EFFECTS**

**Acute effects of overexposure**

| | |
|---|---|
| Eye Contact | Transient irritation |
| Skin Contact | Concentrate may be irritating, nonsensitizer |
| Inhalation | Nontoxic |
| Ingestion | Nontoxic |
| Skin Absorption | Nontoxic |

**Chronic effects of overexposure** None currently known

**Product/Ingredients listed as carcinogen or potential carcinogen?** **NTP Annual Report** No **IARC Monographs** No **OSHA** No

**Signs and symptoms of exposure** None

**Medical conditions generally aggravated by exposure** None known

## 4. FIRST AID MEASURES

**Emergency and first aid procedures**

| | |
|---|---|
| Eyes | Flush immediately with cool, clean water for at least 15 minutes |
| Skin | Wash with mild soap and warm water |
| Inhalation | Move to fresh air |
| Ingestion | If large quantities are ingested, contact a physician |

In every case get medical attention as required

## 5. FIRE FIGHTING MEASURES

**Flash point (test method)** None to boiling (COC)

**Flammable limits** Not determined

**Extinguishing media** As appropriate for the surrounding fire: water (flood with water), dry chemical, $CO_2$, or "alcohol" foam

**Special fire fighting procedures** None

**Unusual fire and explosion hazards** None

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled** Mop up or use dry absorbent

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storing** Avoid contact with eyes. Avoid prolonged or repeated skin contact with the concentrate. Wash thoroughly after handling. Do not swallow.

**Other precautions** This product contains amine. Do not add nitrite or other nitrosating agents to this product due to the potential for nitrosamine formation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection (Specify type)** None

**Ventilation**

| | |
|---|---|
| Local exhaust | Not normally required |
| Mechanical (General) | General room ventilation should be sufficient |
| Special | None |
| Other | None |

**Protective gloves** None needed with working solution

**Other protective equipment** None
**Eye protection** Safety glasses

**Exposure limits** None established by ACGIH or OSHA for product as whole
Refer to Section 2

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Dark blue liquid |
| **Odor** | Mild |
| **pH of concentrate (as range)** | Not applicable |
| **Typical operating pH (as range)** | 8.8-9.2 |
| **Boiling point (ASTM D86)** | 209°F (98°C) |
| **Freezing point** | 12°F (-11°C) |
| **Solubility in water** | Soluble |
| **Specific gravity ($H_2O=1$)** | 0.974 |
| **V.O.C. Content (EPA Method 24)** | 2.113 lbs/gal |
| **Evaporation rate (butyl acetate=1)** | $<1$ |

## 10. STABILITY AND REACTIVITY

| | | | |
|---|---|---|---|
| **Stability** | Stable | **Conditions to avoid** | None |
| **Incompatibility (materials to avoid)** | Strong oxidizers, acids, and alkalis | | |
| **Hazardous combustion or decomposition products** | Thermal decomposition (fire) may produce oxides of carbon, nitrogen, and sulfur | | |
| **Hazardous polymerization** | Will not occur | **Conditions to avoid** | None |

## 11. TOXICOLOGICAL INFORMATION

| | | Results | |
|---|---|---|---|
| **Study** | **Test Animal** | **Concentrate** | **10% Solution** |
| Acute inhalation toxicity | Rat | --- | nontoxic<br>$LC_{50} > 202$mg/l |
| Acute oral toxicity | Rat | nontoxic<br>$LD_{50} > 5000$mg/kg | nontoxic |
| Acute dermal toxicity | Rabbit | nontoxic<br>$LD_{50} > 2000$mg/kg | nontoxic |
| Primary skin irritation | Rabbit | irritant<br>PDI index > 6.42 | nonirritant<br>PDI index = 2.21 |
| Primary eye irritation | Rabbit | irritant | nonirritant |
| Human Insult patch | Human volunteers | --- | nonirritant<br>nonsensitizer |

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal method** Must comply with local, state, and federal regulations. If pre-treatment is needed, chemical treatment or ultrafiltration may be used. Contact Master Chemical Tech Line (1-800-537-3365) for assistance.

## 14. TRANSPORT INFORMATION

**Department of Transportation**

**DOT Hazard Class:** None
TRIM® E206 is not classified as a hazardous material by DOT.

## 15. REGULATORY INFORMATION

**Resource Conservation and Recovery Act**

**EPA Hazardous Waste Number(s):** None
TRIM® E206 is not classified as a hazardous waste by EPA.

**Toxic Substances Control Act**

All TRIM® E206 ingredients are listed on the TSCA Inventory of Chemical Substances.

**Superfund Amendments and Reauthorization Act of 1986**

TRIM® E206 does not contain any Section 302/304 Extremely Hazardous Substances or Section 313 Toxic Chemicals.

## 16. OTHER INFORMATION

| | **HMIS Hazard Index** | **NFPA RATING** |
|---|---|---|
| | **Concentrate** | |
| (Health) | H = 1 | H = 1 |
| (Fire) | F = 0 | F = 0 |
| (Reactivity) | R = 0 | R = 0 |
| (Personal Protection) | PP = A (safety glasses) | Special hazards = none |
| | **Typical Working Solution** | |
| | H = 1 | H = 1 |
| | F = 0 | F = 0 |
| | R = 0 | R = 0 |
| | PP = A (safety glasses) | Special hazards = none |

**Key** 0 = minimal 1 = slight 2 = moderate 3 = serious 4 = severe
This information is intended solely for the use of individuals trained in the particular system.



The information herein is given in good faith and believed current as of the date of this MSDS. Because conditions of use are beyond our control, no guarantee, representation or warranty expressed or implied is made. Consult Master Chemical Corporation for further information.

Date of preparation April 17, 2008

# 1 Step

## Gun Cleaner and Lubricant

**24 Hour Emergency Phone Number**
(Chemtrec)
**800-424-9300**
**International**
**(US and Canada) Collect**
**703-527-3887**

# Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

## 1. Identification

**Product identifier**

| | |
|---|---|
| Trade name | 1 Step Gun Cleaner and Lubricant |
| Product description | Item# 1 Step-1/4 oz, 1 Step-1/2 oz, 1 Step 1- Needle, 1 Step-8, 1 Step-GAL |

**Details of the supplier of the safety data sheet**

| | |
|---|---|
| Manufacturer/supplier | Pro-Shot Products<br>PO Box 763-311 S. Baughman Rd.<br>Taylorville IL 62568 |
| Contact Infomation | IL (800) 477-7922 (217) 824-9133<br>Email: service@proshotproducts.com |

## 2. Hazard(s) Identification

Classification of the substance or mixture

GHS08 GHS02 GHS09 GHS07

**Label elements**

GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS08 GHS02 GHS09 GHS07

Signal word: Warning

Hazard statements:
May be fatal if swallowed and enters air ways.
Causes skin irritation.
Causes serious eye irritation.

# 1 Step Gun Cleaner and Lubricant

## 2. Hazard(s) Identification (continued)

Precautionary statements

Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If swallowed: Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Rinse mouth.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system**

NFPA ratings (scale 0-4)


Health=1; Fire=1; Reactivity=0


Health=1; Fire=1; Reactivity=0

## 3. Composition / Information on Ingredients

Chemical characterization: Mixtures

Dangerous Components

d-limonene

94266-47-4

Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319

GHS02 Flame: Flam. Liq. 3 H226 Flammable liquid and vapor

1-5%

Aquatic Acute 1, H400; Aquatic Chronic 1, H410;

Skin Irrit. 2, H315; Skin Sens. 1, H317

## 4. First-aid Measures

**Description of first aid measures**

General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation: In case of unconsciousness, place patient securely on side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly. If irritation occurs consult a doctor.

## 4. First-aid Measures (continued)

| | |
|---|---|
| After eye contact | Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor. |
| After swallowing | Immediately call a doctor. |
| Most important symptoms and effects, both acute and delayed | No further relevant information available. |
| Indication of any immediate medical attention and special treatment needed | No further relevant information available. |

## 5. Fire-fighting Measures

**Extinguishing media**

| | |
|---|---|
| Suitable extinguishing agents | Use fire fighting measures that suit the environment. |
| Special hazards arising from the substance or mixture | No further relevant information available. |

**Advice for firefighters**

| | |
|---|---|
| Protective equipment | As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. |

## 6. Accidental Release Measures

| | |
|---|---|
| Personal precautions, protective equipment and emergency procedures | Not required |
| Environmental precautions | Do not allow to enter sewers/ surface or ground water |
| Methods and material for containment and cleaning up | Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to section 13. Ensure adequate ventilation. Dispose of the collected material according to regulations. |
| Reference to other sections | See Section 7 for information on safe handling.<br>See Section 8 for information on personal protection equipment.<br>See Section 13 for disposal information. |

## 7. Handling and Storage

| | |
|---|---|
| Precautions for safe handling | Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. |
| Information about protection against explosions and fires | No special measures required |

**Conditions for safe storage, including any incompatibilities**

**Storage**

| | |
|---|---|
| Requirements to be met by storerooms and receptacles: | No special requirements |
| Further information about storage conditions | Keep receptacle tightly sealed |
| Specific end use(s) | No further relevant information available |

# 1 Step Gun Cleaner and Lubricant

## 8. Exposure Controls / Personal Protection

| | |
|---|---|
| Additional information about design of technical systems | No further data; see section 7 |

**Control parameters**

| | |
|---|---|
| Components with occupational exposure limits | The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. |
| Additional information | The lists that were valid during the creation were used as basis. |

**Exposure controls**

**Personal protective equipment**

| | |
|---|---|
| General protective and hygienic measures | Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. |
| Breathing equipment | Not required |
| Protection of hands |  Protective gloves<br>The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Select glove material based on penetration times, rates of diffusion and degradation. |
| Material of gloves | The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. |
| Penetration time of glove material | The exact break-through time has to be determined and observed by the manufacturer of the protective gloves. |
| Eye protection | Tightly sealed goggles |

# 1 Step Gun Cleaner and Lubricant

## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Appearance

| | |
|---|---|
| Form | Liquid |
| Color | See product |
| Odor | Slight citrus odor |
| Odor Threshold | Not determined |
| pH-value | Not determined |

Change in condition

| | |
|---|---|
| Melting point/Melting range | Not applicable |
| Boiling point/Boiling range | N/A |
| Flash Point | >223°F (>106°C) |
| Flammability (solid, gaseous) | Not applicable |

Ignition temperature

| | |
|---|---|
| Decomposition temperature | Not determined |
| Auto-igniting | Not determined |
| Danger of explosion | Not determined |

Explosion limits

| | |
|---|---|
| Lower | Not determined |
| Upper | Not determined |
| Vapor Pressure @ 20 DEG C | <0.003 kPa |
| Density @ 20 DEG C | 0.85-0.88 |
| Relative Density | Not determined |
| Vapor Density | Not determined |
| Evaporation Rate | Not determined |
| Solubility in/Miscibility with Water | Not miscible |
| Partition coefficient (n-octanol/water) | Not determined |

Viscosity

| | |
|---|---|
| Viscosity - Dynamic | Varies with grade |
| Viscosity - Kinematic | Varies with grade |

Solvent content

| | |
|---|---|
| Organic solvents | 0.00% |
| Other Information | No further information |

# 1 Step Gun Cleaner and Lubricant

## 10. Stability and Reactivity

| | |
|---|---|
| Reactivity | No further relevant information available |
| Chemical stability | Stable under normal conditions |
| Thermal decomposition / conditions to be avoided | No decomposition if used according to specifications |
| Possibility of hazardous reactions | No dangerous reactions known |
| Conditions to avoid | No further relevant information available |
| Incompatible materials | No further relevant information available |
| Hazardous decomposition products | No dangerous decomposition products known |

## 11. Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

**LD/LC50 values that are relevant for classification**

| | |
|---|---|
| 9003-13-8 Polyalkylene Glycol | Oral: LD50 >300- <2000 mg/kg (rat)<br>Dermal: LD50 >2000 mg/kg (rat) |

**Primary irritant effect:**

| | |
|---|---|
| On the skin | Irritant to skin and mucous membranes |
| On the eye | Irritating effect. Causes serious eye irritation |
| Additional toxicological information | The product shows the following dangers according to internally approved calculation methods for preparations: Harmful. Irritant. |

**Carcinogenic categories**

| | |
|---|---|
| IARC (International Agency for Research on Cancer) | None of the ingredients are listed.<br>Group 1 - Carcinogenic to humans<br>Group 2A - Probably carcinogenic to humans<br>Group 2B - Possibly carcinogenic to humans<br>Group 3 - Not classifiable as to its carcinogenicity to humans<br>Group 4 - Probably not carcinogenic to humans |
| NTP (National Toxicology Program) | None of the ingredients are listed |
| OSHA-Ca (Occupational Safety & Health Administration) | None of the ingredients are listed |

## 12. Ecological Information

| | |
|---|---|
| Toxicity | No data is available on this product. |
| Aquatic toxicity | No further relevant information available |
| Persistence and degradability | No further relevant information available |
| Bioaccumulative potential | No further relevant information available |
| Mobility in soil | No further relevant information available |

**Additional ecological information**

| | |
|---|---|
| General notes | Water hazard class 1 (Self-assessment): slightly hazardous for water |

## 12. Ecological Information (continued)

**Results of PBT and vPvB assessment**

| | |
|---|---|
| PBT | Not applicable |
| vPvB | Not applicable |
| Other adverse effects | No further relevant information available |

## 13. Disposal Considerations

**Uncleaned packagings**

| | |
|---|---|
| Recommendation | Disposal must be made according to official regulations. |

## 14. Transportation Information

| | |
|---|---|
| UN-Number | |
| DOT, ADR, ADN, IMDG, IATA | Non-regulated material |
| **UN proper shipping name** | |
| DOT, ADR, ADN, IMDG, IATA | Non-regulated material |
| **Transport hazard class(es)** | |
| DOT, ADR, ADN, IMDG, IATA | |
| Class | Non-regulated material |
| **Packing group** | |
| DOT, ADR, IMDG, IATA | Non-regulated material |
| **Environmental hazards** | |
| Marine pollutant | No |
| Special precautions for user | Not applicable |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable |
| UN “Model Regulation” | — |

## 15. Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Sara**

| | |
|---|---|
| Section 355 (extremely hazardous substances) | None of the ingredients are listed |
| Section 313 (Specific toxic chemical listings) | None of the ingredients are listed |
| TSCA (Toxic Substances Control Act) | None of the ingredients are listed |

**Proposition 65**

| | |
|---|---|
| Chemicals known to cause cancer | None of the ingredients are listed |

# 1 Step Gun Cleaner and Lubricant

## 15. Regulatory Information (continued)

| | |
|---|---|
| Chemicals known to cause reproductive toxicity for females | None of the ingredients are listed |
| Chemicals known to cause reproductive toxicity for males | None of the ingredients are listed |
| Chemicals known to cause developmental toxicit | None of the ingredients are listed |
| **Carcinogenic categories** | |
| EPA (Environmental Protection Agency) | None of the ingredients are listed |
| TLV (Threshold Limit Value established by ACGIH) | None of the ingredients are listed |
| NIOSH-Ca (National Institute for Occupational Safety and Health) | None of the ingredients are listed |
| GHS label elements | Non-regulated material |
| Hazard pictograms |  GHS08  GHS02  GHS09  GHS07 |
| Signal word | Warning |
| Hazard-determining components of labeling | d-limonene |
| Hazard statements | Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. |
| Precautionary statements | Wear protective gloves.<br>Wear eye protection / face protection.<br>Wash thoroughly after handling.<br>Do not eat, drink or smoke when using this product.<br>If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.<br>Continue rinsing.<br>If swallowed: Call a poison center/doctor if you feel unwell.<br>Specific treatment (see on this label).<br>If skin irritation occurs: Get medical advice/attention.<br>If eye irritation persists: Get medical advice/attention.<br>Rinse mouth.<br>If on skin: Wash with plenty of water.<br>Take off contaminated clothing and wash it before reuse.<br>Dispose of contents/container in accordance with local/regional/national/international regulations. |
| National regulations | The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances. |

# 1 Step Gun Cleaner and Lubricant

## 15. Regulatory Information (continued)

State Right to Know

d-limonene

| | | |
|---|---|---|
| 94266-47-4 |  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319<br>  GHS02 Flame: Flam. Liq. 3 H226 Flammable liquid and vapor<br>  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;<br>  Skin Irrit. 2, H315; Skin Sens. 1, H317 | 1-5% |

Chemical safety assessment

A chemical safety assessment has not been carried out

## 16. Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

Date of preparation / last revision

12/03/2014 / 1

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

# SAFETY DATA SHEET

**Revision Date** 15-Jun-2015 **Version** 1

## 1. IDENTIFICATION

**Product identifier**
**Product Name** 116DA SILICONE SPRAY LUBRICANT 10.25OZ AE

**Other means of identification**
**Product Code** 80070
**Synonyms** None

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Aerosol Lubricant
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

**Distributor**
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

**Company Phone Number** 1-87-Permatex
(877) 376-2839
**24 Hour Emergency Phone Number** Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

**E-mail address** mail@permatex.com

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Aspiration toxicity | Category 1 |
| Flammable aerosols | Category 1 |

**Label elements**

**Emergency Overview**

**Danger**

May be fatal if swallowed and enters airways
Extremely flammable aerosol

**Appearance** White **Physical state** Liquid Aerosol **Odor** Mild

**Precautionary Statements - Prevention**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

**Precautionary Statements - Storage**
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Other Information**
Toxic to aquatic life with long lasting effects

Unknown acute toxicity 2.5 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**substance(s)**

| Chemical Name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| WATER | 7732-18-5 | 30 - 60 | * |
| DISTILLATES (PETROLEUM), HYDROTREATED LIGHT | 64742-47-8 | 10 - 30 | * |
| BUTANE | 106-97-8 | 10 - 30 | * |
| PROPANE | 74-98-6 | 3 - 7 | * |
| POLYDIMETHYLSILOXANE | 63148-62-9 | 3 - 7 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** Get medical advice/attention if you feel unwell.

**Eye contact** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin contact** IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

**Inhalation** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

**Ingestion** IF SWALLOWED:. Call a physician or poison control center immediately. Do NOT induce vomiting.

**Self-protection of the first aider** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See section 2 for more information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Carbon dioxide (CO2), Dry chemical, Foam

**Unsuitable extinguishing media**
None.

**Specific hazards arising from the chemical**
Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Remove all sources of ignition. Contents under pressure. Do not puncture or incinerate cans.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store locked up.

**Incompatible materials** Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** .

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| BUTANE<br>106-97-8 | STEL: 1000 ppm | (vacated) TWA: 800 ppm<br>(vacated) TWA: 1900 mg/m³ | TWA: 800 ppm<br>TWA: 1900 mg/m³ |
| PROPANE<br>74-98-6 | TWA: 1000 ppm | TWA: 1000 ppm<br>TWA: 1800 mg/m³<br>(vacated) TWA: 1000 ppm<br>(vacated) TWA: 1800 mg/m³ | IDLH: 2100 ppm<br>TWA: 1000 ppm<br>TWA: 1800 mg/m³ |

*NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state** Liquid; Aerosol
**Appearance** White
**Odor** Mild
**Odor threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|

| | | |
|---|---|---|
| **pH** | No information available | |
| **Melting point / freezing point** | No information available | |
| **Boiling point / boiling range** | > 38 °C / >100 °F | |
| **Flash point** | No information available | Gives a flame projection at full valve opening or flashback at any degree of valve opening |
| **Evaporation rate** | < 1 | Butyl acetate = 1 |
| **Flammability (solid, gas)** | No information available | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit:** | No information available | |
| **Lower flammability limit:** | No information available | |
| **Vapor pressure** | No information available | |
| **Vapor density** | >1 | Air = 1 |
| **Relative density** | 0.94 | |
| **Water solubility** | No information available | |
| **Solubility in other solvents** | No information available | |
| **Partition coefficient** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | 20% |
| **Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No data available

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Heat, flames and sparks. Temperatures >50 °C / 122 °F.

**Incompatible materials**
Strong oxidizing agents

**Hazardous Decomposition Products**
Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation of respiratory tract. |
| **Eye contact** | Contact with eyes may cause irritation. May cause redness and tearing of the eyes. |
| **Skin contact** | May cause skin irritation and/or dermatitis. |

**Ingestion** Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| WATER<br>7732-18-5 | > 90 mL/kg ( Rat ) | - | - |
| DISTILLATES (PETROLEUM), HYDROTREATED LIGHT<br>64742-47-8 | > 5000 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | > 5.2 mg/L ( Rat ) 4 h |
| BUTANE<br>106-97-8 | - | - | = 658 g/m³ ( Rat ) 4 h |
| PROPANE<br>74-98-6 | - | - | = 658 mg/L ( Rat ) 4 h |
| POLYDIMETHYLSILOXANE<br>63148-62-9 | > 17 g/kg ( Rat ) | > 2 g/kg ( Rabbit ) | - |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.
**Germ cell mutagenicity** No information available.
**Carcinogenicity** No information available.
**Target Organ Effects** Central nervous system.

**The following values are calculated based on chapter 3.1 of the GHS document** .
**ATEmix (oral)** 22274 mg/kg
**ATEmix (dermal)** 7700 mg/kg
**ATEmix (inhalation-gas)** 1337916 mg/l

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

78.5 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| DISTILLATES (PETROLEUM), HYDROTREATED LIGHT<br>64742-47-8 | - | 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static | 4720: 96 h Den-dronereides heteropoda mg/L LC50 |

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Mobility**
No information available.

| Chemical Name | Partition coefficient |
|---|---|
| BUTANE<br>106-97-8 | 2.89 |
| PROPANE<br>74-98-6 | 2.3 |

**Other adverse effects**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Disposal of wastes** | Disposal should be in accordance with applicable regional, national and local laws and regulations. |
| **Contaminated packaging** | Do not reuse container. |
| **US EPA Waste Number** | D001 |

## 14. TRANSPORT INFORMATION

**DOT**

| | |
|---|---|
| **UN/ID no** | 1950 |
| **Proper shipping name:** | Aerosols, Limited Quantity (LQ) |
| **Hazard Class** | 2.1 |
| **Emergency Response Guide Number** | 126 |

**IATA**

| | |
|---|---|
| **UN/ID no** | ID 8000 |
| **Proper shipping name:** | Consumer commodity |
| **Hazard Class** | 9 |
| **ERG Code** | 9L |

**IMDG**

| | |
|---|---|
| **UN/ID no** | 1950 |
| **Proper shipping name:** | Aerosols, Limited Quantity (LQ) |
| **Hazard Class** | 2.1 |
| **EmS-No** | F-D, S-U |

## 15. REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Not Listed. |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire hazard** | Yes |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

## US State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| BUTANE<br>106-97-8 | X | X | X |
| PROPANE<br>74-98-6 | X | X | X |

**U.S. EPA Label Information**
**EPA Pesticide Registration Number** Not applicable

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 2 | **Flammability** 3 | **Instability** 0 | - |
| **HMIS** | **Health hazards** 2 | **Flammability** 3 | **Physical hazards** 0 | **Personal protection** B |

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

**Revision Date** 15-Jun-2015

**Disclaimer**
**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision Date** 09-Feb-2016 **Version** 2

## 1. IDENTIFICATION

**Product identifier**
**Product Name** 120DA BELT DRESSING & CONDITIONER 12 OZ AE

**Other means of identification**
**Product Code** 80073
**Synonyms** None

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Flammable Aerosol, Lubricant
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

**Distributor**
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

**Company Phone Number** 1-87-Permatex
(877) 376-2839

**24 Hour Emergency Phone Number** Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

**E-mail address** mail@permatex.com

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.**

| | |
|---|---|
| Skin corrosion/irritation | Category 3 |
| Reproductive toxicity | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration toxicity | Category 2 |
| Flammable aerosols | Category 2 |
| Gases under pressure | Liquefied gas |

**Label elements**

**Emergency Overview**

**Danger**

Causes mild skin irritation
Suspected of damaging fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure
May be harmful if swallowed and enters airways
Flammable aerosol
Contains gas under pressure; may explode if heated

**Appearance** White **Physical state** Liquid Flammable Aerosol **Odor** Solvent

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

If skin irritation occurs: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

**Precautionary Statements - Storage**
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Other Information**
- The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w 1,3-butadiene (EINECS No. 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the S-phrases (2-)9-16 (Table 3.2) should apply. This note applies only to certain complex oil-derived substances in Part 3

Unknown acute toxicity 5 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**substance(s)**

| Chemical Name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| WATER | 7732-18-5 | 60 - 100 | * |
| N-HEXANE | 110-54-3 | 7 - 13 | * |
| PETROLEUM GASES, LIQUEFIED, SWEETENED | 68476-86-8 | 3 - 7 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** Get medical advice/attention if you feel unwell.

**Eye contact** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin contact** IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

**Inhalation** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

**Ingestion** IF SWALLOWED:. Call a physician or poison control center immediately. Do NOT induce vomiting.

**Self-protection of the first aider** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See section 2 for more information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Carbon dioxide (CO2), Dry chemical, Foam

**Unsuitable extinguishing media**
None.

**Specific hazards arising from the chemical**
Highly flammable. Contents under pressure and can explode when exposed to heat or flames.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required. Remove all sources of ignition. Contents under pressure. Do not puncture or incinerate cans.

**Environmental precautions**

**Environmental precautions** Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Contents under pressure. Do not puncture or incinerate cans.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store locked up.

**Incompatible materials** Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** .

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| N-HEXANE<br>110-54-3 | TWA: 50 ppm<br>S* | TWA: 500 ppm<br>TWA: 1800 mg/m$^3$<br>(vacated) TWA: 50 ppm<br>(vacated) TWA: 180 mg/m$^3$ | IDLH: 1100 ppm<br>TWA: 50 ppm<br>TWA: 180 mg/m$^3$ |

*NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

**Respiratory protection** Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid; Flammable Aerosol |
| **Appearance** | White |
| **Odor** | Solvent |
| **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | No information available | |
| **Melting point / freezing point** | No information available | |
| **Boiling point / boiling range** | > 38 °C / >100 °F | |
| **Flash point** | No information available | No flame projection |
| **Evaporation rate** | < 1 | Butyl acetate = 1 |
| **Flammability (solid, gas)** | No information available | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit:** | No information available | |
| **Lower flammability limit:** | No information available | |
| **Vapor pressure** | No information available | |
| **Vapor density** | >1 | Air = 1 |
| **Relative density** | 0.97 | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Partition coefficient** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | 15% |
| **Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No data available

**Chemical stability**
Stable under recommended storage conditions

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Heat, flames and sparks. Temperatures >50 °C / 122 °F.

**Incompatible materials**
Strong oxidizing agents

**Hazardous Decomposition Products**
Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Inhalation** May cause irritation of respiratory tract.

**Eye contact** Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

**Skin contact** May cause skin irritation and/or dermatitis.

**Ingestion** Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| WATER<br>7732-18-5 | > 90 mL/kg ( Rat ) | - | - |
| N-HEXANE<br>110-54-3 | = 25 g/kg ( Rat ) | = 3000 mg/kg ( Rabbit ) | = 48000 ppm ( Rat ) 4 h |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.
**Germ cell mutagenicity** No information available.
**Carcinogenicity** No information available.
**Target Organ Effects** Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin.

**The following values are calculated based on chapter 3.1 of the GHS document** .
**ATEmix (oral)** 250000 mg/kg
**ATEmix (dermal)** 30000 mg/kg
**ATEmix (inhalation-vapor)** 480000 mg/l

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

90 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| N-HEXANE<br>110-54-3 | - | 2.1 - 2.98: 96 h Pimephales promelas mg/L LC50 flow-through | 1000: 24 h Daphnia magna mg/L EC50 |

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Mobility**
No information available.

| Chemical Name | Partition coefficient |
|---|---|
| PETROLEUM GASES, LIQUEFIED, SWEETENED<br>68476-86-8 | <=2.8 |

**Other adverse effects**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and

regulations.

**Contaminated packaging** Do not reuse container.

**US EPA Waste Number** D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste Status |
|---|---|
| N-HEXANE<br>110-54-3 | Toxic<br>Ignitable |

## 14. TRANSPORT INFORMATION

**DOT**

**UN/ID no** 1950
**Proper shipping name:** Aerosols, Limited Quantity (LQ)
**Hazard Class** 2.1
**Emergency Response Guide Number** 126

**IATA**

**UN/ID no** ID 8000
**Proper shipping name:** Consumer commodity
**Hazard Class** 9
**ERG Code** 9L

**IMDG**

**UN/ID no** 1950
**Proper shipping name:** Aerosols, Limited Quantity (LQ)
**Hazard Class** 2.1
**EmS-No** F-D, S-U

## 15. REGULATORY INFORMATION

**International Inventories**

**TSCA** Complies
**DSL/NDSL** Complies
**EINECS/ELINCS** Complies
**ENCS** Not Listed.
**IECSC** Complies
**KECL** Complies
**PICCS** Complies
**AICS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|---|---|
| N-HEXANE - 110-54-3 | 1.0 |

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire hazard** | Yes |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| N-HEXANE<br>110-54-3 | 5000 lb | - | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| WATER<br>7732-18-5 | - | - | X |
| N-HEXANE<br>110-54-3 | X | X | X |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**WHMIS Hazard Class**

B5 - Flammable aerosol, D2B - Toxic materials

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 2 | **Flammability** 3 | **Instability** 0 | - |
| **HMIS** | **Health hazards** 2 | **Flammability** 3 | **Physical hazards** 0 | **Personal protection** B |

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

**Revision Date** 09-Feb-2016

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Material name** | **1260 ACRY-LUSTRE GLOSS 121 LIGHT BASE** |
| **Version #** | 01 |
| **Revision date** | 12-30-2010 |
| **CAS #** | Mixture |
| **Product code** | 1260-121 |
| **Product use** | Paint. |
| **Manufacturer/Supplier** | Kelly-Moore Paint Co., Inc.<br>987 Commercial St., San Carlos, CA 94070<br>E-mail: rstetson@kellymoore.com<br>Telephone number: 1-800-874-4436<br>Contact Person: Robert Stetson |
| **Emergency** | Emergency Telephone Number: 1-800-424-9300 |

## 2. Hazards Identification

| | |
|---|---|
| **Physical state** | Liquid. |
| **Appearance** | Milky white to colored liquid. |
| **Emergency overview** | CAUTION<br><br>Prolonged or repeated contact may dry skin and cause irritation. |
| **OSHA regulatory status** | This product is hazardous according to OSHA 29 CFR 1910.1200. |
| **Potential health effects** | |
| **Routes of exposure** | Inhalation. Skin contact. |
| **Eyes** | Direct contact with eyes may cause temporary irritation. |
| **Skin** | Prolonged or repeated contact may dry skin and cause irritation. |
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Ingestion** | Ingestion may cause irritation and malaise. |
| **Target organs** | Central nervous system. Skin. |
| **Chronic effects** | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain. |
| **Signs and symptoms** | Defatting of the skin. Vapors may cause drowsiness and dizziness. |
| **Potential environmental effects** | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|---|---|---|
| Titanium dioxide | 13463-67-7 | <22 |
| Ethylene glycol | 107-21-1 | <2.5 |

**Composition comments** Components not listed are either non-hazardous or are below reportable limits. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First Aid Measures

**First aid procedures**

| | |
|---|---|
| **Eye contact** | Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist. |
| **Skin contact** | Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. Get medical attention if irritation persists after washing. |
| **Inhalation** | Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention if any discomfort continues. |

**Ingestion** Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions.

**Notes to physician** Treat symptomatically.

**General advice** If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

**Flammable properties** The product is not flammable.

**Extinguishing media**

**Suitable extinguishing media** Extinguish with foam, carbon dioxide, dry powder or water fog.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Protection of firefighters**

**Protective equipment and precautions for firefighters** Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## 6. Accidental Release Measures

**Personal precautions** Avoid inhalation of vapors and contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8).

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for containment** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Should not be released into the environment.

Large Spills: Absorb in vermiculite, dry sand or earth and place into containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

## 7. Handling and Storage

**Handling** Provide adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. Wear appropriate personal protective equipment. Wash thoroughly after handling. Observe good industrial hygiene practices.

**Storage** Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials.

## 8. Exposure Controls / Personal Protection

**Occupational exposure limits**

**US. ACGIH Threshold Limit Values**

| Components | Type | Value | Form |
|---|---|---|---|
| Ethylene glycol (107-21-1) | TWA | 100 mg/m3 | Aerosol. |

**Engineering controls** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Personal protective equipment**

**Eye / face protection** Wear approved safety goggles.

**Skin protection** Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** Use NIOSH certified, air purifying respirators with N-, P-, or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. protection provided by air-purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134. Consult a qualified industrial hygienist or Safety Professional for respirator selection guidance.

| | |
|---|---|
| **General hygiene considerations** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical & Chemical Properties

| | |
|---|---|
| **Appearance** | Milky white to colored liquid. |
| **Color** | Various. |
| **Odor** | Slightly ammoniacal. |
| **Odor threshold** | Not available. |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **pH** | Not available. |
| **Melting point** | Not available. |
| **Freezing point** | Not available. |
| **Boiling point** | Not available. |
| **Flash point** | Not available. |
| **Evaporation rate** | < 1 (n-BuAc=1) |
| **Flammability limits in air, upper, % by volume** | Not available. |
| **Flammability limits in air, lower, % by volume** | Not available. |
| **Vapor pressure** | Not available. |
| **Vapor density** | > 1 (Air=1) |
| **Specific gravity** | Not available. |
| **Solubility (water)** | Moderately soluble |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |

## 10. Chemical Stability & Reactivity Information

| | |
|---|---|
| **Chemical stability** | Material is stable under normal conditions. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. Strong acids. |
| **Hazardous decomposition products** | Carbon oxides. Silicon oxides. |
| **Possibility of hazardous reactions** | Will not occur. |

## 11. Toxicological Information

**Acute effects** In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Ingestion may cause irritation and malaise.

**Local effects**

**US ACGIH Threshold Limit Values: Skin designation**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Can be absorbed through the skin. |

**Sensitization** Not a skin sensitizer.

**Chronic effects** Prolonged or repeated contact may dry skin and cause dermatitis. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.

**Carcinogenicity** Potentially carcinogenic components are typically only present in trace amounts. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

**ACGIH Carcinogens**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | A3 Confirmed animal carcinogen with unknown relevance to humans. |

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | A2 Suspected human carcinogen. |
| Ethylene glycol (CAS 107-21-1) | A4 Not classifiable as a human carcinogen. |
| Titanium dioxide (CAS 13463-67-7) | A4 Not classifiable as a human carcinogen. |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | 2B Possibly carcinogenic to humans. |
| Ethylene dioxide (CAS 75-21-8) | 1 Carcinogenic to humans. |
| Silica (CAS 61790-53-2) | 3 Not classifiable as to carcinogenicity to humans. |
| Silicon dioxide (CAS 7631-86-9) | 3 Not classifiable as to carcinogenicity to humans. |
| Titanium dioxide (CAS 13463-67-7) | 2B Possibly carcinogenic to humans. |

**US NTP Report on Carcinogens: Anticipated carcinogen**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Anticipated carcinogen. |

**US NTP Report on Carcinogens: Known carcinogen**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Known carcinogen. |

**US OSHA Specifically Regulated Substances: Cancer hazard**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Cancer hazard. |

**Further information** Components of the product may be absorbed into the body through the skin.

## 12. Ecological Information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Environmental effects** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulation / Accumulation** No data available.

**Mobility in environmental media** The product is miscible with water. May spread in water systems.

**Partition coefficient (n-octanol/water)** Not available.

## 13. Disposal Considerations

**Waste codes** Not regulated.

**US RCRA Hazardous Waste U List: Reference**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | U108 |
| Ethylene dioxide (CAS 75-21-8) | U115 |

**Disposal instructions** Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

**Waste from residues / unused products** Dispose in accordance with applicable federal, state, and local regulations.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport Information

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

**US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | 10 LBS |

**US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold Planning Quantity**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | 1000 LBS |

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | 0.1 % |
| Ethylene dioxide (CAS 75-21-8) | 0.1 % |
| Ethylene glycol (CAS 107-21-1) | 1.0 % |

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Listed. |
| Ethylene dioxide (CAS 75-21-8) | Listed. |
| Ethylene glycol (CAS 107-21-1) | Listed. |

**CERCLA (Superfund) reportable quantity (lbs)**

Ethylene glycol 5000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

| | |
|---|---|
| **Hazard categories** | Immediate Hazard - Yes<br>Delayed Hazard - Yes<br>Fire Hazard - No<br>Pressure Hazard - No<br>Reactivity Hazard - No |
| **Section 302 extremely hazardous substance** | No |
| **Section 311 hazardous chemical** | No |

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** WARNING: This product contains chemicals known to the State of California to cause cancer.

**US - California Hazardous Substances (Director's): Listed substance**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Listed. |
| Ethylene dioxide (CAS 75-21-8) | Listed. |
| Ethylene glycol (CAS 107-21-1) | Listed. |
| Silica (CAS 61790-53-2) | Listed. |
| Silicon dioxide (CAS 7631-86-9) | Listed. |

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

| | |
|---|---|
| Acetaldehyde (CAS 75-07-0) | Listed: April 1, 1988 Carcinogenic. |
| Dioxane (CAS 123-91-1) | Listed: January 1, 1988 Carcinogenic. |
| Ethylene dioxide (CAS 75-21-8) | Listed: July 1, 1987 Carcinogenic. |

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Listed: August 7, 2009 Developmental toxin. |

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Listed: February 27, 1987 Female reproductive toxin. |

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Listed: August 7, 2009 Male reproductive toxin. |

**US - Massachusetts RTK - Substance: Listed substance**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Listed. |

| | |
|---|---|
| Ethylene dioxide (CAS 75-21-8) | Listed. |
| Ethylene glycol (CAS 107-21-1) | Listed. |
| Silica (CAS 61790-53-2) | Listed. |
| Silicon dioxide (CAS 7631-86-9) | Listed. |
| Titanium dioxide (CAS 13463-67-7) | Listed. |

**US - New Jersey Community RTK (EHS Survey): Reportable threshold**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | 500 LBS |
| Ethylene dioxide (CAS 75-21-8) | 500 LBS |
| Ethylene glycol (CAS 107-21-1) | 500 LBS |

**US - New Jersey RTK - Substances: Listed substance**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Listed. |
| Ethylene dioxide (CAS 75-21-8) | Listed. |
| Ethylene glycol (CAS 107-21-1) | Listed. |
| Silica (CAS 61790-53-2) | Listed. |
| Silicon dioxide (CAS 7631-86-9) | Listed. |
| Titanium dioxide (CAS 13463-67-7) | Listed. |

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Listed. |
| Ethylene dioxide (CAS 75-21-8) | Listed. |
| Ethylene glycol (CAS 107-21-1) | Listed. |
| Silica (CAS 61790-53-2) | Listed. |
| Silicon dioxide (CAS 7631-86-9) | Listed. |
| Titanium dioxide (CAS 13463-67-7) | Listed. |

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

| | |
|---|---|
| Dioxane (CAS 123-91-1) | Special hazard. |
| Ethylene dioxide (CAS 75-21-8) | Special hazard. |

## 16. Other Information

| | |
|---|---|
| **Further information** | HMIS® is a registered trade and service mark of the NPCA. |
| **HMIS® ratings** | Health: 1*<br>Flammability: 1<br>Physical hazard: 0 |
| **NFPA ratings** | Health: 0<br>Flammability: 1<br>Instability: 0 |
| **Disclaimer** | The information in the sheet was written based on the best knowledge and experience currently available. Additional information is given in the Material Safety Data Sheet. |
| **Issue date** | 12-30-2010 |

# Material Safety Data Sheet

**EMERGENCY NUMBERS:**

**(USA) CHEMTREC : 1(800) 424-9300 (24hrs)**
**(CAN) CANUTEC : 1(613) 996-6666 (24hrs)**
**(USA) Anachemia : 1(518) 297-4444**
**(CAN) Anachemia : 1(514) 489-5711**

| WHMIS | Protective Clothing | TDG Road/Rail |
|---|---|---|
| WHMIS CLASS: B-2 D-2B | | TDG CLASS: 3<br>PIN: UN1219 PG: II |
|  |  |  |

## Section I. Product Identification and Uses

| | |
|---|---|
| **Product name** | **2-PROPANOL** |
| **Chemical formula** | (CH3)2CHOH |
| **Synonyms** | IPA, Isopropanol, Isopropyl alcohol, sec-Propyl alcohol, Dimethylcarbinol, AC-7830, AC-7830SC, AC-7830PG, AC-7830P, GD-7830, GD-7831, CD-7831, M-10589, M-10595, M-7832, M-11178, M-10204, M-12087, 76400, 76403, 76406, 76415, 76395 |
| **Supplier** | Anachemia Canada.<br>255 Norman.<br>Lachine (Montreal), Que<br>H8R 1A3 |
| **Material uses** | For laboratory use only. |

| | |
|---|---|
| **CI#** | Not available. |
| **CAS#** | 67-63-0 |
| **Code** | AC-7830 |
| **Formula weight** | 60.10 |
| **Supersedes** | 329 |

## Section II. Ingredients

| Name | CAS # | % | TLV |
|---|---|---|---|
| 1) 2-PROPANOL | 67-63-0 | 99-100 | Exposure limits: ACGIH TWA 200 ppm ; STEL 400 ppm |

**Toxicity values of the hazardous ingredients**

2-PROPANOL:
ORAL (LD50): Acute: 6410 mg/kg (Rabbit). 3600 mg/kg (Mouse). 5045 mg/kg (Rat).
ORAL (LDLo): Acute: 3570 mg/kg (Human).
DERMAL (LD50): Acute: 12800 mg/kg (Rabbit).
VAPOR (LC50): Acute: 16000 ppm (Rat) (8 hour(s)).

## Section III. Physical Data

| | |
|---|---|
| **Physical state and appearance / Odor** | Colorless liquid with alcohol odor. |
| **pH (1% soln/water)** | Not available. |
| **Odor threshold** | 40-200 ppm |
| **Percent volatile** | 100% (V/V) |
| **Freezing point** | -86 to -89.5°C |
| **Boiling point** | 82 to 83°C |
| **Specific gravity** | 0.79 (Water = 1) |
| **Vapor density** | 2.1 (Air = 1) |
| **Vapor pressure** | 45.4 mm Hg @ 25°C |
| **Water/oil dist. coeff.** | 0.34 |
| **Evaporation rate** | 1.7 (n-Butyl acetate = 1). |
| **Solubility** | Miscible in water. |

## Section IV. Fire and Explosion Data

| | |
|---|---|
| **Flash point** | OPEN CUP: 12°C (Tag open cup) |
| **Flammable limits** | LOWER: 2% UPPER: 12.7% |
| **Auto-ignition temperature** | 399°C |
| **Fire degradation products** | Oxides of carbon (CO, CO2). |
| **Fire extinguishing procedures** | Use DRY chemical, carbon dioxide, or alcohol-resistant foam. Water may be ineffective to extinguish fires. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Disperse vapors with water spray if they have not ignited. Cool containing vessels with flooding quantities of water. |
| **Fire and Explosion Hazards** | Flammable liquid. Vapors formed from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point. Vapor forms explosive mixture with air. Container explosion may occur under fire conditions or when heated. Contact with oxidizers may cause fire and/or explosion. Sensitive to static discharge. Not expected to be sensitive to mechanical impact. Emits toxic fumes under fire conditions. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Routes of entry** | Ingestion and inhalation. Eye contact. Skin contact. Skin absorption. |
| **Effects of Acute Exposure** | Harmful by ingestion, inhalation, or skin absorption. Irritant. Target organs: cardiovascular system, gastrointestinal system, kidneys, eyes, skin, nerves, respiratory system. 2000 ppm (2-PROPANOL) is immediately dangerous to life or health. |
| **Eye** | Causes severe irritation. May cause severe burns and loss of vision. May cause permanent damage. IRRITATION: EYE-RABBIT 100 mg SEVERE. |
| **Skin** | Causes skin irritation. Defatting dermatitis with prolonged use. Readily absorbed through skin. |
| **Inhalation** | Material is irritating to mucous membranes and upper respiratory tract. Exposure to high vapor concentrations may cause central nervous system depression ( headache, drowsiness, nausea, vomiting, stuper, dizziness, incoordination, unconsciousness, etc...), coma and death possible. May have anesthetic effect with prolonged use. |
| **Ingestion** | Causes gastrointestinal irritation. May cause headache, nausea, dizziness, vomiting, fatigue, abdominal pain, diarrhea, gastritis and central nervous system depression. Lethal dose for humans is estimated at 250 mL. If a small amount of the liquid is aspirated into the lungs, very severe lung damage or death could result. |

## Section V. Toxicological Properties



| | |
|---|---|
| **Effects of Chronic Overexposure** | Repeated or prolonged skin contact can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged or repeated exposure to high concentrations can produce severe or fatal central nervous system depression. Animal: liver and spleen damage. Detected in maternal milk in human. Carcinogenic effects: Not available. Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated. Medical conditions which may be aggravated: Individuals with preexisting diseases of the skin, eye, or respiratory system may be more susceptible to the toxicity of overexposure to this product. |

## Section VI. First Aid Measures

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. |
| **Skin contact** | Immediately flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reusing. Discard contaminated leather articles such as shoes and belt. |
| **Inhalation** | Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Seek immediate medical attention. |
| **Ingestion** | DO NOT induce vomiting. Guard against aspiration into lungs. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus. |

## Section VII. Reactivity Data

| | |
|---|---|
| **Stability** | Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination. |
| **Hazardous decomp. products** | Not available. |
| **Incompatibility** | Oxidizing agents, acids, chlorine, trinitromethane, hydrogen peroxide, phosgene, halogens, acid anhydrides, oleum, iron salts, sulfuric acid, hydrogen-palladium, permanganates, potassium t-butoxide, nitroform, acetaldehyde, barium perchlorate, ethylene oxide, hexamethylene diisocyanate, hypochlorous acid, isocyanates, perchloric acid, permonosulfuric acid, halogenated compounds, amines, alkalies, aldehydes, ketones. Aluminum at high temperatures. |
| **Reaction Products** | Forms explosive peroxides on contact with air, if they become concentrated, these peroxides may present an explosion hazard. Hazardous polymerization will not occur. |

## Section VIII. Preventive Measures

| | |
|---|---|
| **Protective Clothing in case of spill and leak** | Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. |
| **Spill and leak** | Evacuate the area. Eliminate all sources of ignition and ensure that all handling equipment is electrically grounded. Stay upwind: Keep out of low areas. Dyke the area with sand or a natural barrier. Absorb on sand or vermiculite and place in a closed container for disposal. Use non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Runoff to sewer may create fire or explosion hazard. |
| **Waste disposal** | Burn in a chemical incinerator equipped with an after burner and scrubber. According to all applicable regulations. Harmful to aquatic life at high concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. |
| **Storage and Handling** | Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Take precautionary measures against electrostatic discharges. Ground the container while dispensing. Ground all equipment containing material. Use explosion proof equipment. Use non-sparking tools. Watch for accumulation in low confined areas. Empty containers may contain a hazardous residue. Do not use pressure to dispense. May develop pressure; vent periodically. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Product is highly hygroscopic. |

## Section IX. Protective Measures

| | |
|---|---|
| **Protective clothing** | Splash goggles. Impervious viton or nitrile gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Have available and use as appropriate: face shields, rubber suits, aprons, and boots. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location. |
| **Engineering controls** | Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Vapors are heavier than air and may travel along the ground or pool in low areas. Because vapor is heavy, ventilation must be provided at floor level as well as at higher levels. Do not use in unventilated spaces. |

## Section X. Other Information

**Special Precautions or comments**

Flammable liquid! Irritant! Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Keep away from heat, sparks and flame. Take precautionary measures against static discharges. Use non-sparking tools. Bond and ground transfer containers and equipment to avoid static accumulation. May develop pressure; vent periodically. Handle and open container with care. Container should be opened only by a technically qualified person.
Synergistic materials: Increases the hepatotoxicity of carbon tetrachloride, chloroform, trichloroethylene and 1,1,2-trichloroethane.
RTECS NO: NT8050000 (2-Propanol).
NOTE TO PHYSICIAN: If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered. Metabolism of 2-propanol forms acetone, which may be detected in the urine and expired air. In contact to diabetic acidosis, acidosis will occur in the absence of hyperglycemia. Hemodialysis should be considered in severe acute intoxications.

NFPA

**Prepared by MSDS Department/Département de F.S..**

**Validated 10-Nov-2014**

# GHS SAFETY DATA SHEET

## SCIGRIP® 2007 Vinyl Cement

Date Revised: **JAN 2012**
Supersedes: **FEB 2010**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **SCIGRIP® 2007 Vinyl Cement**

**PRODUCT USE:** Solvent cement for bonding PVC

**SUPPLIER:**
SCIGRIP Adhesives Ltd
Unit 22, Bentall Business Park, Glover Rd
Washington, Tyne&Wear, NE37 3JD, UK
Tel +44 191 419 6444

**MANUFACTURER:**
IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: CHEMTEL Tel. 800.255-3924, 813-248-0585 (International)

**Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2 | | | | |

**GHS LABEL:**   **OR**  

**Signal Word:** **Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapor | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H335: May cause respiratory irritation | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H336: May cause drowsiness or dizziness | P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| EUH066: Repeated exposure may cause skin dryness or cracking | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Tetrahydrofuran (THF Stabilized) | 109-99-9 | 203-726-8 | 05-2116297729-22-0000 | 40 - 60 |
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 36 - 49 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, hydrogen chloride and smoke
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure airline masks.

| | HMIS | NFPA |
|---|---|---|
| Health | 2 | 2 |
| Flammability | 3 | 3 |
| Reactivity | 0 | 0 |

0-Minimal
1-Slight
2-Moderate
3-Serious
4-Severe

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
**Materials not to be used for clean up:** Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store between 40° - 110°F (5° - 43°C). Store in ventilated room or in shade away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Tetrahydrofuran (THF) | 50 ppm | 100 ppm | 200 ppm | N/E |
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | N/E |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

# GHS SAFETY DATA SHEET

**SCIGRIP® 2007 Vinyl Cement**

Date Revised: **JAN 2012**
Supersedes: **FEB 2010**

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, syrupy liquid | | |
| **Odor:** | Ethereal | **Odor Threshold:** | 2.5 ppm (THF) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | -108.5°C (-163.3°F) Based on first melting component: THF | | |
| **Boiling Point:** | 66°C (151°F) Based on first boiling component: THF | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -20°C (-4°F) TCC based on THF | **Flammability:** | Category 2 |
| **Specific Gravity:** | 0.849 @23°C ( 73°F) | **Flammability Limits:** | **LEL:** 1.4% based on MEK |
| **Solubility:** | Solvent portion soluble in water. Resin portion separates out. | | **UEL:** 11.8% based on THF |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 129 mm Hg @ 20°C (68°F)based on THF |
| **Auto-ignition Temperature:** | 321°C (610°F) based on THF | **Vapor Density:** | >2 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | | |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable |
| **Hazardous decomposition products:** | None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke. |
| **Conditions to avoid:** | Keep away from heat, sparks, open flame and other ignition sources. |
| **Incompatible Materials:** | Oxidizers, strong acids and bases, amines, ammonia |

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

| | |
|---|---|
| **Inhalation:** | Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages. |
| **Eye Contact:** | Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid. |
| **Skin Contact:** | Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact. |
| **Ingestion:** | May cause nausea, vomiting, diarrhea and mental sluggishness. |

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ | **Target Organs** |
|---|---|---|---|
| Tetrahydrofuran (THF) | Oral: 2842 mg/kg (rat) | Inhalation 3 hrs. 21,000 mg/m$^3$ (rat) | STOT SE3 |
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/m$^3$ (rat) | STOT SE3 |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity:** | None Known |
| **Mobility:** | In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 600 g/l. |
| **Degradability:** | Biodegradable |
| **Bioaccumulation:** | Minimal to none. |

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

| | |
|---|---|
| **Proper Shipping Name:** | Adhesives |
| **Hazard Class:** | 3 |
| **Secondary Risk:** | None |
| **Identification Number:** | UN 1133 |
| **Packing Group:** | PG II |
| **Label Required:** | Class 3 Flammable Liquid |
| **Marine Pollutant:** | NO |

| **EXCEPTION for Ground Shipping** |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| **TDG INFORMATION** | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant

**Symbols:** F, Xi

**Risk Phrases:**
R11: Highly flammable.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

**Safety Phrases:**
S2: Keep out of the reach of children
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S29: Do not empty into drains.
S33: Take precautionary measures against static discharges.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

## SECTION 16 - OTHER INFORMATION

| | |
|---|---|
| **Specification Information:** | |
| **Department issuing data sheet:** | IPS, Safety Health & Environmental Affairs |
| **E-mail address:** | <EHSinfo@ipscorp.com> |
| **Training necessary:** | Yes, training in practices and procedures contained in product literature. |
| **Reissue date / reason for reissue:** | 01/12/2012 / Updated GHS Standard Format |
| **Intended Use of Product:** | Solvent cement for bonding PVC |

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 23-3022-3 | **Version Number:** | 4.01 |
| **Issue Date:** | 02/22/16 | **Supercedes Date:** | 07/28/14 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(TM) DESK & OFFICE CLEANER 573

**Product Identification Numbers**
70-0051-5274-2, 70-0714-9577-7

**1.2. Recommended use and restrictions on use**

**Recommended use**
Aerosol foam cleaner for office surfaces.

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Stationery and Office Supplies Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Aerosol: Category 2.
Gas Under Pressure: Liquefied gas.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Gas cylinder | Health Hazard |

**Pictograms**

**Hazard Statements**
Flammable aerosol.
Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

**Precautionary Statements**

**Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).

**Storage:**
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place.
Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**
May cause frostbite.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| WATER | 7732-18-5 | 80 - 95 |
| ISOBUTANE PROPELLANT | 75-28-5 | 1 - 5 Trade Secret * |
| ISOPROPYL ALCOHOL | 67-63-0 | 3 - 5 Trade Secret * |
| ETHOXYLATED ALCOHOLS | 68439-46-3 | 1 - 3 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. Get medical attention.

**Skin Contact:**
Thaw frosted skin with lukewarm water. Do not rub affected area. Get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Hydrocarbons | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Do not use in a confined area with minimal air exchange. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| ISOPROPYL ALCOHOL | 67-63-0 | ACGIH | TWA:200 ppm;STEL:400 ppm | A4: Not class. as human carcin |
| ISOPROPYL ALCOHOL | 67-63-0 | OSHA | TWA:980 mg/m3(400 ppm) | |
| ISOBUTANE PROPELLANT | 75-28-5 | ACGIH | STEL:1000 ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

**Skin/hand protection**

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors
Half facepiece or full facepiece supplied-air respirator
Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

**Thermal hazards**
Wear cold insulating gloves/face shield/eye protection.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Foam |
| **Odor, Color, Grade:** | White foam, Clean/Fresh Scent |
| **Odor threshold** | *No Data Available* |
| **pH** | 11 - 12 |
| **Melting point** | *Not Applicable* |
| **Boiling Point** | 10 - 213 ºF |
| **Flash Point** | <=0 ºF [*Details:* Propellent] |
| **Evaporation rate** | >=1 [*Ref Std:* WATER=1] [*Details:* product as applied (without propellant)] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 1.80 % |
| **Flammable Limits(UEL)** | 12.7 % [*Details:* for propellent] |
| **Vapor Pressure** | 31 - 43 psi [@ 70 ºF] [*Details:* (aerosol can pressure)] |
| **Vapor Density** | *No Data Available* |
| **Density** | 1 g/ml |
| **Specific Gravity** | Approximately 1 [*Ref Std:* WATER=1] |
| **Solubility In Water** | *No Data Available* |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | *Not Applicable* |
| **Volatile Organic Compounds** | 5.77 % weight |
| **Percent volatile** | 96 - 98 % weight |
| **VOC Less H2O & Exempt Solvents** | *No Data Available* |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Not determined

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Frostbite: Signs/symptoms may include intense pain, discoloration of skin, and tissue destruction.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Frostbite: Signs/symptoms may include intense pain, clouding of the cornea, redness, swelling, and blindness.

Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| ISOPROPYL ALCOHOL | Dermal | Rabbit | LD50 12,870 mg/kg |
| ISOPROPYL ALCOHOL | Inhalation-Vapor (4 hours) | Rat | LC50 72.6 mg/l |
| ISOPROPYL ALCOHOL | Ingestion | Rat | LD50 4,710 mg/kg |
| ISOBUTANE PROPELLANT | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| ETHOXYLATED ALCOHOLS | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| ETHOXYLATED ALCOHOLS | Ingestion | Rat | LD50 1,378 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| ISOPROPYL ALCOHOL | Multiple animal species | No significant irritation |
| ISOBUTANE PROPELLANT | Professional judgement | No significant irritation |
| ETHOXYLATED ALCOHOLS | Rabbit | Irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| ISOPROPYL ALCOHOL | Rabbit | Severe irritant |
| ISOBUTANE PROPELLANT | Professional judgement | No significant irritation |
| ETHOXYLATED ALCOHOLS | Professional judgement | Corrosive |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| ISOPROPYL ALCOHOL | Guinea pig | Not sensitizing |
| ETHOXYLATED ALCOHOLS | Guinea | Not sensitizing |

| | | |
|---|---|---|
| | pig | |

**Respiratory Sensitization**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| ISOPROPYL ALCOHOL | In Vitro | Not mutagenic |
| ISOPROPYL ALCOHOL | In vivo | Not mutagenic |
| ISOBUTANE PROPELLANT | In Vitro | Not mutagenic |
| ETHOXYLATED ALCOHOLS | In Vitro | Not mutagenic |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| ISOPROPYL ALCOHOL | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| ISOPROPYL ALCOHOL | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 400 mg/kg/day | during organogenesis |
| ISOPROPYL ALCOHOL | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | LOAEL 9 mg/l | during gestation |
| ETHOXYLATED ALCOHOLS | Dermal | Not toxic to female reproduction | Rat | NOAEL 250 mg/kg/day | 2 generation |
| ETHOXYLATED ALCOHOLS | Dermal | Not toxic to development | Rat | NOAEL 250 mg/kg/day | 2 generation |
| ETHOXYLATED ALCOHOLS | Dermal | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 100 mg/kg/day | 2 generation |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| ISOPROPYL ALCOHOL | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| ISOPROPYL ALCOHOL | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| ISOPROPYL ALCOHOL | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL 13.4 mg/l | 24 hours |
| ISOPROPYL ALCOHOL | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| ISOBUTANE PROPELLANT | Inhalation | cardiac sensitization | Causes damage to organs | Multiple animal species | NOAEL Not available | |
| ISOBUTANE PROPELLANT | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| ISOBUTANE PROPELLANT | Inhalation | respiratory irritation | All data are negative | Mouse | NOAEL Not available | |
| ETHOXYLATED ALCOHOLS | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| ISOPROPYL ALCOHOL | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 12.3 mg/l | 24 months |
| ISOPROPYL ALCOHOL | Inhalation | nervous system | All data are negative | Rat | NOAEL 12 mg/l | 13 weeks |
| ISOPROPYL ALCOHOL | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 400 mg/kg/day | 12 weeks |
| ISOBUTANE PROPELLANT | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 4,500 ppm | 13 weeks |
| ETHOXYLATED ALCOHOLS | Dermal | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 125 mg/kg/day | 13 weeks |
| ETHOXYLATED ALCOHOLS | Dermal | hematopoietic system | All data are negative | Rat | NOAEL 125 mg/kg/day | 13 weeks |

**Aspiration Hazard**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**
**Health:** 2 **Flammability:** 3 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|---|---|---|---|
| **Document Group:** | 23-3022-3 | **Version Number:** | 4.01 |
| **Issue Date:** | 02/22/16 | **Supercedes Date:** | 07/28/14 |

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# Safety Data Sheet



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|---|---|---|---|
| **Document Group:** | 19-2246-7 | **Version Number:** | 7.01 |
| **Issue Date:** | 07/18/14 | **Supercedes Date:** | 07/17/14 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(TM) Finesse-it(TM) II Finishing Material, 05928, 05929, 05932

**Product Identification Numbers**
LB-K000-1063-0, LB-K000-1063-1, 60-4100-0959-5, 60-4100-0969-4, 60-4100-0987-6

**1.2. Recommended use and restrictions on use**

**Recommended use**
Automotive, Removal of imperfections from painted surface.

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Automotive Aftermarket |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

**2.1. Hazard classification**
Flammable Liquid: Category 4.

**2.2. Label elements**
**Signal word**
Warning

**Symbols**
Not applicable

**Pictograms**
Not applicable

**Hazard Statements**
Combustible liquid.

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves and eye/face protection.

**Response:**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Store in a well-ventilated place. Keep cool.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
None.

27% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Water | 7732-18-5 | 40 - 70 Trade Secret * |
| Hydrotreated Heavy Naphtha (Petroleum) | 64742-48-9 | 5 - 10 Trade Secret * |
| Aluminum Oxide | 1344-28-1 | 5 - 10 Trade Secret * |
| Decamethylcyclopentasiloxane | 541-02-6 | 0 - 7 Trade Secret * |
| Hydrotreated Light Petroleum Distillates | 64742-47-8 | 3 - 7 Trade Secret * |
| Glycerin | 56-81-5 | 1 - 5 Trade Secret * |
| Dodecamethylcyclohexasiloxane | 540-97-6 | 1 - 5 Trade Secret * |
| White mineral oil (petroleum) | 8042-47-5 | <= 0.5 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Formaldehyde | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing

dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep cool. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Aluminum Oxide | 1344-28-1 | CMRG | TWA:1 fiber/cc | |
| Aluminum Oxide | 1344-28-1 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Aluminum, insoluble compounds | 1344-28-1 | ACGIH | TWA(respirable fraction):1 mg/m3 | A4: Not class. as human carcin |
| Decamethylcyclopentasiloxane | 541-02-6 | CMRG | TWA:10 ppm | |
| Glycerin | 56-81-5 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Hydrotreated Light Petroleum Distillates | 64742-47-8 | CMRG | TWA:165 ppm | |
| Kerosine (petroleum) | 64742-47-8 | ACGIH | TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3 | Skin Notation, A3: Confirmed animal carcin. |
| Hydrotreated Heavy Naphtha (Petroleum) | 64742-48-9 | Manufacturer determined | TWA:100 ppm | |
| MINERAL OILS, HIGHLY-REFINED OILS | 8042-47-5 | ACGIH | TWA(inhalable fraction):5 mg/m3 | A4: Not class. as human carcin |
| Paraffin oil | 8042-47-5 | OSHA | TWA(as mist):5 mg/m3 | |
| White mineral oil (petroleum) | 8042-47-5 | CMRG | TWA:5 mg/m3;STEL:10 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Safety Glasses with side shields

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Neoprene

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Emulsion |
| **Odor, Color, Grade:** | Slight solvent odor, white liquid |
| **Odor threshold** | *No Data Available* |
| **pH** | 7.5 - 8.5 |
| **Melting point** | *No Data Available* |
| **Boiling Point** | > 95 ºF [@ 760 mmHg] [*Details:* (Test Method ASTM D1120-94)] |
| **Flash Point** | 186 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Pressure** | 6.3 mmHg [@ 20 ºC] [*Details:* (Test Method ASTM E-1719-97)] |
| **Vapor Density** | *No Data Available* |
| **Density** | 1.03 g/ml |
| **Specific Gravity** | 1.03 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 12,000 - 16,000 |
| **Hazardous Air Pollutants** | 0.0062 % weight [*Test Method:* Calculated] |
| **Volatile Organic Compounds** | 145 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **Volatile Organic Compounds** | 14.0 % weight [*Test Method:* calculated per CARB title 2] |
| **Percent volatile** | 79.1 % |
| **VOC Less H2O & Exempt Solvents** | 439 g/l [*Test Method:* calculated SCAQMD rule 443.1] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Strong acids
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE > 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation-Vapor | | LC50 estimated to be 20 - 50 mg/l |
| Hydrotreated Heavy Naphtha (Petroleum) | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| Hydrotreated Heavy Naphtha (Petroleum) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Aluminum Oxide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Aluminum Oxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 2.3 mg/l |
| Aluminum Oxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Hydrotreated Light Petroleum Distillates | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| Hydrotreated Light Petroleum Distillates | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 3.0 mg/l |
| Hydrotreated Light Petroleum Distillates | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Decamethylcyclopentasiloxane | Dermal | Rabbit | LD50 > 15,000 mg/kg |
| Decamethylcyclopentasiloxane | Inhalation-Dust/Mist (4 hours) | Rat | LC50 8.7 mg/l |
| Decamethylcyclopentasiloxane | Ingestion | Rat | LD50 > 24,134 mg/kg |
| Glycerin | Dermal | Rabbit | LD50 estimated to be > 5,000 mg/kg |
| Glycerin | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Dodecamethylcyclohexasiloxane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Dodecamethylcyclohexasiloxane | Ingestion | Rat | LD50 > 50,000 mg/kg |
| White mineral oil (petroleum) | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| White mineral oil (petroleum) | Ingestion | Rat | LD50 > 5,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Rabbit | Irritant |
| Aluminum Oxide | Rabbit | No significant irritation |
| Hydrotreated Light Petroleum Distillates | Rabbit | Mild irritant |
| Glycerin | Rabbit | No significant irritation |
| Dodecamethylcyclohexasiloxane | Rabbit | No significant irritation |
| White mineral oil (petroleum) | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Rabbit | No significant irritation |
| Aluminum Oxide | Rabbit | No significant irritation |
| Hydrotreated Light Petroleum Distillates | Rabbit | Mild irritant |
| Glycerin | Rabbit | No significant irritation |
| Dodecamethylcyclohexasiloxane | Rabbit | No significant irritation |
| White mineral oil (petroleum) | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Guinea pig | Not sensitizing |
| Hydrotreated Light Petroleum Distillates | Guinea pig | Not sensitizing |
| Glycerin | Guinea pig | Not sensitizing |
| White mineral oil (petroleum) | Guinea pig | Not sensitizing |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | In vivo | Not mutagenic |
| Hydrotreated Heavy Naphtha (Petroleum) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Aluminum Oxide | In Vitro | Not mutagenic |
| Hydrotreated Light Petroleum Distillates | In Vitro | Not mutagenic |
| White mineral oil (petroleum) | In Vitro | Not mutagenic |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | Human and animal | Some positive data exist, but the data are not sufficient for classification |
| Aluminum Oxide | Inhalation | Rat | Not carcinogenic |
| Hydrotreated Light Petroleum Distillates | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Glycerin | Ingestion | Mouse | Some positive data exist, but the data are not sufficient for classification |
| White mineral oil (petroleum) | Dermal | Mouse | Not carcinogenic |
| White mineral oil (petroleum) | Inhalation | Multiple animal species | Not carcinogenic |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | Not toxic to development | Rat | NOAEL 2.4 mg/l | during organogenesis |
| Glycerin | Ingestion | Not toxic to female reproduction | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| Glycerin | Ingestion | Not toxic to male reproduction | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| Glycerin | Ingestion | Not toxic to development | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| Dodecamethylcyclohexasiloxane | Ingestion | Not toxic to female reproduction | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |
| Dodecamethylcyclohexasiloxane | Ingestion | Not toxic to male reproduction | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Dodecamethylcyclohexasiloxane | Ingestion | Not toxic to development | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |
| White mineral oil (petroleum) | Ingestion | Not toxic to female reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not toxic to male reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not toxic to development | Rat | NOAEL 4,350 mg/kg/day | during gestation |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure |
|---|---|---|---|---|---|---|

| | | | | | | Duration |
|---|---|---|---|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | nervous system | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 6.5 mg/l | 4 hours |
| Hydrotreated Light Petroleum Distillates | Inhalation | central nervous system depression | May cause drowsiness or dizziness | | NOAEL Not available | |
| Hydrotreated Light Petroleum Distillates | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |

## Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 4.6 mg/l | 6 months |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.9 mg/l | 13 weeks |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 0.6 mg/l | 90 days |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | bone, teeth, nails, and/or hair \| blood \| liver \| muscles | All data are negative | Rat | NOAEL 5.6 mg/l | 12 weeks |
| Hydrotreated Heavy Naphtha (Petroleum) | Inhalation | heart | All data are negative | Multiple animal species | NOAEL 1.3 mg/l | 90 days |
| Aluminum Oxide | Inhalation | pneumoconiosis \| pulmonary fibrosis | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Glycerin | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 3.91 mg/l | 14 days |
| Glycerin | Inhalation | heart \| liver \| kidney and/or bladder | All data are negative | Rat | NOAEL 3.91 mg/l | 14 days |
| Glycerin | Ingestion | endocrine system \| hematopoietic system \| liver \| kidney and/or bladder | All data are negative | Rat | NOAEL 10,000 mg/kg/day | 2 years |
| Dodecamethylcyclohexasiloxane | Ingestion | endocrine system \| liver \| respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Dodecamethylcyclohexasiloxane | Ingestion | nervous system | All data are negative | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| White mineral oil (petroleum) | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,381 mg/kg/day | 90 days |
| White mineral oil (petroleum) | Ingestion | liver \| immune system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,336 mg/kg/day | 90 days |

## Aspiration Hazard

| Name | Value |
|---|---|
| Hydrotreated Heavy Naphtha (Petroleum) | Aspiration hazard |
| Hydrotreated Light Petroleum Distillates | Aspiration hazard |
| White mineral oil (petroleum) | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Aluminum Oxide | 1344-28-1 | 5 - 10 |
| Aluminum Oxide (ALUMINUM OXIDE (FIBROUS FORMS ONLY)) | 1344-28-1 | 5 - 10 |

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 1 **Flammability:** 2 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**
**Health:** 1 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|---|---|---|---|
| **Document Group:** | 19-2246-7 | **Version Number:** | 7.01 |
| **Issue Date:** | 07/18/14 | **Supercedes Date:** | 07/17/14 |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 06-8243-5 | **Version Number:** | 32.02 |
| **Issue Date:** | 01/14/15 | **Supercedes Date:** | 05/15/14 |

## SECTION 1: Identification

### 1.1. Product identifier
3M™ Primer 94

**Product Identification Numbers**

| ID Number | UPC | ID Number | UPC |
|---|---|---|---|
| 70-0064-1371-3 | | 70-0160-4782-4 | 00-21200-46201-6 |
| 70-0160-5476-2 | 00-21200-23930-4 | 70-0160-5477-0 | 00-21200-23929-8 |
| 70-0160-5478-8 | 00-21200-23926-7 | 70-0160-5497-8 | 00-21200-24481-0 |
| 70-0160-5499-4 | 00-21200-24479-7 | 70-0160-5500-9 | 00-21200-24478-0 |
| 70-0160-5501-7 | 00-21200-24477-3 | 70-0160-5506-6 | 00-21200-26207-4 |
| 70-0160-5507-4 | 00-21200-26206-7 | 70-0160-5508-2 | 00-21200-26205-0 |
| 70-0705-7964-7 | 00-21200-23925-0 | 70-0707-4298-9 | 00-21200-31530-5 |
| H0-0017-3728-9 | | HB-0040-4920-9 | |
| HB-0042-9605-7 | | XI-0039-2700-5 | |
| XI-0039-2719-5 | | XI-0039-2857-3 | |
| XT-0007-0061-4 | | XT-0007-0096-0 | |

### 1.2. Recommended use and restrictions on use

**Recommended use**
Surface Primer, Primer

### 1.3. Supplier's details
**MANUFACTURER:** 3M
**DIVISION:** Industrial Adhesives and Tapes Division
**ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA
**Telephone:** 1-888-3M HELPS (1-888-364-3577)

### 1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

### 2.1. Hazard classification
Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.
Aspiration Hazard: Category 1.

Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Highly flammable liquid and vapor.

Causes eye irritation.
May cause an allergic skin reaction.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.
Suspected of causing cancer.

Causes damage to organs:
sensory organs |

Causes damage to organs through prolonged or repeated exposure:
nervous system |

May cause damage to organs through prolonged or repeated exposure:
sensory organs |

**Precautionary Statements**

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed: Call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF exposed or concerned: Get medical advice/attention.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Keep cool.
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.
2% of the mixture consists of ingredients of unknown acute dermal toxicity.
4% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Cyclohexane | 110-82-7 | 30 - 60 Trade Secret * |
| Xylene | 1330-20-7 | 20 - 35 Trade Secret * |
| Ethyl Alochol | 64-17-5 | 5 - 10 Trade Secret * |
| Ethylbenzene | 100-41-4 | 1 - 10 Trade Secret * |
| Ethyl Acetate | 141-78-6 | 1 - 5 Trade Secret * |
| Acrylate Polymer (NJTS Reg No 04499600-5984P) | Trade Secret* | 1 - 5 Trade Secret * |
| Chlorinated Polyolefin | 68609-36-9 | < 2 Trade Secret * |
| Methyl Alcohol | 67-56-1 | 0.1 - 1.0 Trade Secret * |
| Epoxy Resin | 25068-38-6 | < 0.5 Trade Secret * |
| Toluene | 108-88-3 | < 0.5 Trade Secret * |
| Chlorobenzene | 108-90-7 | < 0.5 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

**If Swallowed:**
Do not induce vomiting. Get immediate medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Chloride | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Ethylbenzene | 100-41-4 | ACGIH | TWA:20 ppm | A3: Confirmed animal carcin. |
| Ethylbenzene | 100-41-4 | CMRG | TWA:25 ppm;STEL:75 ppm | |
| Ethylbenzene | 100-41-4 | OSHA | TWA:435 mg/m3(100 ppm) | |
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | A4: Not class. as human carcin |
| Toluene | 108-88-3 | CMRG | STEL:75 ppm | Skin Notation |
| Toluene | 108-88-3 | OSHA | TWA:200 ppm;CEIL:300 ppm | |
| Chlorobenzene | 108-90-7 | ACGIH | TWA:10 ppm | A3: Confirmed animal carcin. |
| Chlorobenzene | 108-90-7 | OSHA | TWA:350 mg/m3(75 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |
| Xylene | 1330-20-7 | ACGIH | TWA:100 ppm;STEL:150 ppm | A4: Not class. as human carcin |
| Xylene | 1330-20-7 | CMRG | TWA:50 ppm;STEL:75 ppm | |
| Xylene | 1330-20-7 | OSHA | TWA:435 mg/m3(100 ppm) | |
| Ethyl Acetate | 141-78-6 | ACGIH | TWA:400 ppm | |
| Ethyl Acetate | 141-78-6 | OSHA | TWA:1400 mg/m3(400 ppm) | |

| | | | | |
|---|---|---|---|---|
| Ethyl Alochol | 64-17-5 | ACGIH | STEL:1000 ppm | A3: Confirmed animal carcin. |
| Ethyl Alochol | 64-17-5 | OSHA | TWA:1900 mg/m3(1000 ppm) | |
| Methyl Alcohol | 67-56-1 | ACGIH | TWA:200 ppm;STEL:250 ppm | Skin Notation |
| Methyl Alcohol | 67-56-1 | OSHA | TWA:260 mg/m3(200 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment. Provide appropriate local exhaust ventilation on open containers. Use in a well-ventilated area.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Liquid |
| **Odor, Color, Grade:** | Amber colored, solvent odor |
| **Odor threshold** | *No Data Available* |

| | |
|---|---|
| **pH** | *Not Applicable* |
| **Melting point** | *Not Applicable* |
| **Boiling Point** | 170 ºF |
| **Flash Point** | 1 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 1 % |
| **Flammable Limits(UEL)** | 11 % |
| **Vapor Pressure** | 68 mmHg [@ 68 ºF] |
| **Vapor Density** | *No Data Available* |
| **Density** | 0.82 g/ml |
| **Specific Gravity** | 0.82 [@ 77 ºF] [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 1 - 35 centipoise [@ 73.4 ºF ] |
| **Hazardous Air Pollutants** | 35.2 - 45.3 % weight [*Test Method:* Calculated] |
| **Hazardous Air Pollutants** | <=15.11 lb HAPS/lb solids [*Test Method:* Calculated] |
| **Volatile Organic Compounds** | 781 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* low solids less exempts] |
| **Percent volatile** | 95.3 - 97 % weight [*Test Method:* Estimated] |
| **VOC Less H2O & Exempt Solvents** | <=97 % [*Test Method:* calculated per CARB title 2] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| **Substance** | **Condition** |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be**

**reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
May be harmful if inhaled.
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
May be harmful in contact with skin.
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**
Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

**Prolonged or repeated exposure may cause target organ effects:**
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**
Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|---|---|---|---|
| Ethylbenzene | 100-41-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

**Additional Information:**
This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE 20 - 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Cyclohexane | Inhalation-Vapor (4 hours) | Rat | LC50 > 32.9 mg/l |
| Cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| Xylene | Dermal | Rabbit | LD50 > 4,200 mg/kg |
| Xylene | Inhalation-Vapor (4 hours) | Rat | LC50 29 mg/l |
| Xylene | Ingestion | Rat | LD50 3,523 mg/kg |
| Ethylbenzene | Dermal | Rabbit | LD50 15,433 mg/kg |
| Ethylbenzene | Inhalation-Vapor (4 hours) | Rat | LC50 17.4 mg/l |
| Ethylbenzene | Ingestion | Rat | LD50 4,769 mg/kg |
| Ethyl Alochol | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| Ethyl Alochol | Inhalation-Vapor (4 hours) | Rat | LC50 124.7 mg/l |
| Ethyl Alochol | Ingestion | Rat | LD50 17,800 mg/kg |
| Ethyl Acetate | Dermal | Rabbit | LD50 > 18,000 mg/kg |
| Ethyl Acetate | Inhalation-Vapor (4 hours) | Rat | LC50 70.5 mg/l |
| Ethyl Acetate | Ingestion | Rat | LD50 5,620 mg/kg |
| Chlorinated Polyolefin | Dermal | Guinea pig | LD50 > 1,000 mg/kg |
| Chlorinated Polyolefin | Ingestion | Rat | LD50 > 3,200 mg/kg |
| Methyl Alcohol | Dermal | | LD50 estimated to be 1,000 - 2,000 mg/kg |
| Methyl Alcohol | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Methyl Alcohol | Ingestion | | LD50 estimated to be 50 - 300 mg/kg |
| Epoxy Resin | Dermal | Rat | LD50 > 1,600 mg/kg |
| Epoxy Resin | Ingestion | Rat | LD50 > 1,000 mg/kg |
| Toluene | Dermal | Rat | LD50 12,000 mg/kg |
| Toluene | Inhalation-Vapor (4 hours) | Rat | LC50 30 mg/l |
| Toluene | Ingestion | Rat | LD50 5,550 mg/kg |
| Chlorobenzene | Dermal | Rabbit | LD50 2,212 mg/kg |
| Chlorobenzene | Inhalation-Vapor (4 hours) | Rat | LC50 16.7 mg/l |
| Chlorobenzene | Ingestion | Rat | LD50 1,419 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethylbenzene | Rabbit | Mild irritant |
| Ethyl Alochol | Rabbit | No significant irritation |
| Ethyl Acetate | Rabbit | Minimal irritation |
| Chlorinated Polyolefin | Guinea pig | No significant irritation |
| Methyl Alcohol | Rabbit | Mild irritant |
| Epoxy Resin | Rabbit | Mild irritant |
| Toluene | Rabbit | Irritant |
| Chlorobenzene | Rabbit | Irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethylbenzene | Rabbit | Moderate irritant |
| Ethyl Alochol | Rabbit | Moderate irritant |
| Ethyl Acetate | Rabbit | Mild irritant |
| Chlorinated Polyolefin | | Mild irritant |
| Methyl Alcohol | Rabbit | Moderate irritant |
| Epoxy Resin | Rabbit | Moderate irritant |
| Toluene | Rabbit | Moderate irritant |
| Chlorobenzene | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Ethylbenzene | Human | Not sensitizing |
| Ethyl Alochol | Human | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Acetate | Guinea pig | Not sensitizing |
| Methyl Alcohol | Guinea pig | Not sensitizing |
| Epoxy Resin | Human and animal | Sensitizing |
| Toluene | Guinea pig | Not sensitizing |
| Chlorobenzene | Multiple animal species | Not sensitizing |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| Epoxy Resin | Human | Some positive data exist, but the data are not sufficient for classification |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Xylene | In Vitro | Not mutagenic |
| Xylene | In vivo | Not mutagenic |
| Ethylbenzene | In vivo | Not mutagenic |
| Ethylbenzene | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alochol | In Vitro | Some positive data exist, but the data are not sufficient for classification |

| | | |
|---|---|---|
| Ethyl Alochol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Acetate | In Vitro | Not mutagenic |
| Ethyl Acetate | In vivo | Not mutagenic |
| Methyl Alcohol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Methyl Alcohol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Epoxy Resin | In vivo | Not mutagenic |
| Epoxy Resin | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |
| Chlorobenzene | In Vitro | Not mutagenic |

## Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Xylene | Dermal | Rat | Not carcinogenic |
| Xylene | Ingestion | Multiple animal species | Not carcinogenic |
| Xylene | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |
| Ethylbenzene | Inhalation | Multiple animal species | Carcinogenic |
| Ethyl Alochol | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Methyl Alcohol | Inhalation | Multiple animal species | Not carcinogenic |
| Epoxy Resin | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Chlorobenzene | Ingestion | Multiple animal species | Not carcinogenic |

## Reproductive Toxicity

## Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Cyclohexane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |
| Xylene | Ingestion | Not toxic to female reproduction | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | Not toxic to male reproduction | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Inhalation | Some positive female reproductive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Xylene | Ingestion | Some positive developmental data exist, | Mouse | NOAEL Not | during |

| | | | | | |
|---|---|---|---|---|---|
| | | but the data are not sufficient for classification | | available | organogenesis |
| Xylene | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL Not available | during gestation |
| Ethylbenzene | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 4.3 mg/l | premating & during gestation |
| Ethyl Alochol | Inhalation | Not toxic to development | Rat | NOAEL 38 mg/l | during gestation |
| Ethyl Alochol | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 5,200 mg/kg/day | premating & during gestation |
| Methyl Alcohol | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,600 mg/kg/day | 21 days |
| Methyl Alcohol | Ingestion | Toxic to development | Mouse | LOAEL 4,000 mg/kg/day | during organogenesis |
| Methyl Alcohol | Inhalation | Toxic to development | Mouse | NOAEL 1.3 mg/l | during organogenesis |
| Epoxy Resin | Ingestion | Not toxic to female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Ingestion | Not toxic to male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Dermal | Not toxic to development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| Epoxy Resin | Ingestion | Not toxic to development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Toluene | Inhalation | Some positive female reproductive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Toluene | Inhalation | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 2.3 mg/l | 1 generation |
| Toluene | Ingestion | Toxic to development | Rat | LOAEL 520 mg/kg/day | during gestation |
| Toluene | Inhalation | Toxic to development | Human | NOAEL Not available | poisoning and/or abuse |
| Chlorobenzene | Inhalation | Not toxic to female reproduction | Rat | NOAEL 2.07 mg/l | 2 generation |
| Chlorobenzene | Ingestion | Not toxic to development | Rat | NOAEL 300 mg/kg/day | during organogenesis |
| Chlorobenzene | Inhalation | Not toxic to development | Rat | NOAEL 2.07 mg/l | 2 generation |
| Chlorobenzene | Inhalation | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 2.07 mg/l | 2 generation |

### Lactation

| Name | Route | Species | Value |
|---|---|---|---|
| Xylene | Ingestion | Mouse | Does not cause effects on or via lactation |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Cyclohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the | Human | NOAEL Not | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | data are not sufficient for classification | and animal | available | |
| Xylene | Inhalation | auditory system | Causes damage to organs | Rat | LOAEL 6.3 mg/l | 8 hours |
| Xylene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Xylene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Xylene | Inhalation | eyes | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 3.5 mg/l | not available |
| Xylene | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | eyes | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 250 mg/kg | not applicable |
| Ethylbenzene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Ethylbenzene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| Ethyl Alochol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 2.6 mg/l | 30 minutes |
| Ethyl Alochol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| Ethyl Alochol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL not available | |
| Ethyl Alochol | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 3,000 mg/kg | |
| Ethyl Acetate | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Ethyl Acetate | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Ethyl Acetate | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Methyl Alcohol | Inhalation | blindness | Causes damage to organs | Human | NOAEL Not available | occupational exposure |
| Methyl Alcohol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| Methyl Alcohol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 hours |
| Methyl Alcohol | Ingestion | blindness | Causes damage to organs | Human | NOAEL Not available | poisoning and/or abuse |
| Methyl Alcohol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Toluene | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 0.004 mg/l | 3 hours |
| Toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Chlorobenzene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Chlorobenzene | Inhalation | respiratory irritation | Some positive data exist, but the | Human | NOAEL Not | occupational |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | data are not sufficient for classification | | available | exposure |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Cyclohexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |
| Cyclohexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| Cyclohexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |
| Xylene | Inhalation | nervous system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.4 mg/l | 4 weeks |
| Xylene | Inhalation | auditory system | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 7.8 mg/l | 5 days |
| Xylene | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL Not available | |
| Xylene | Inhalation | heart \| endocrine system \| hematopoietic system \| muscles \| kidney and/or bladder \| respiratory system | All data are negative | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Ingestion | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 900 mg/kg/day | 2 weeks |
| Xylene | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,500 mg/kg/day | 90 days |
| Xylene | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | heart \| skin \| endocrine system \| bone, teeth, nails, and/or hair \| hematopoietic system \| immune system \| nervous system \| respiratory system | All data are negative | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Ethylbenzene | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.1 mg/l | 2 years |
| Ethylbenzene | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1.1 mg/l | 103 weeks |
| Ethylbenzene | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 3.4 mg/l | 28 days |
| Ethylbenzene | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2.4 mg/l | 5 days |
| Ethylbenzene | Inhalation | endocrine system | Some positive data exist, but the data are not sufficient for | Mouse | NOAEL 3.3 mg/l | 103 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | classification | | | |
| Ethylbenzene | Inhalation | bone, teeth, nails, and/or hair \| muscles | All data are negative | Multiple animal species | NOAEL 4.2 mg/l | 90 days |
| Ethylbenzene | Inhalation | heart \| immune system \| respiratory system | All data are negative | Multiple animal species | NOAEL 3.3 mg/l | 2 years |
| Ethylbenzene | Ingestion | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 680 mg/kg/day | 6 months |
| Ethyl Alochol | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| Ethyl Alochol | Inhalation | hematopoietic system \| immune system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 25 mg/l | 14 days |
| Ethyl Alochol | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| Ethyl Alochol | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 3,000 mg/kg/day | 7 days |
| Ethyl Acetate | Inhalation | endocrine system \| liver \| nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.043 mg/l | 90 days |
| Ethyl Acetate | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 16 mg/l | 40 days |
| Ethyl Acetate | Ingestion | hematopoietic system \| liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| Methyl Alcohol | Inhalation | liver | All data are negative | Rat | NOAEL 6.55 mg/l | 4 weeks |
| Methyl Alcohol | Inhalation | respiratory system | All data are negative | Rat | NOAEL 13.1 mg/l | 6 weeks |
| Methyl Alcohol | Ingestion | liver \| nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 90 days |
| Epoxy Resin | Dermal | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| Epoxy Resin | Dermal | nervous system | All data are negative | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| Epoxy Resin | Ingestion | auditory system \| heart \| endocrine system \| hematopoietic system \| liver \| eyes \| kidney and/or bladder | All data are negative | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Toluene | Inhalation | auditory system \| nervous system \| eyes \| olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| Toluene | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2.3 mg/l | 15 months |
| Toluene | Inhalation | heart \| liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 11.3 mg/l | 15 weeks |
| Toluene | Inhalation | endocrine system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.1 mg/l | 4 weeks |
| Toluene | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL Not available | 20 days |

| | | | | | | |
|---|---|---|---|---|---|---|
| Toluene | Inhalation | bone, teeth, nails, and/or hair | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| Toluene | Inhalation | hematopoietic system \| vascular system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Toluene | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 625 mg/kg/day | 13 weeks |
| Toluene | Ingestion | heart | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Toluene | Ingestion | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| Toluene | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 600 mg/kg/day | 14 days |
| Toluene | Ingestion | endocrine system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 105 mg/kg/day | 28 days |
| Toluene | Ingestion | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 105 mg/kg/day | 4 weeks |
| Chlorobenzene | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.69 mg/l | 2 generation |
| Chlorobenzene | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2.1 mg/l | 2 generation |
| Chlorobenzene | Inhalation | blood | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.35 mg/l | 24 weeks |
| Chlorobenzene | Ingestion | bone marrow | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 250 mg/kg/day | 13 weeks |
| Chlorobenzene | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 188 mg/kg/day | 192 days |
| Chlorobenzene | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 125 mg/kg/day | 13 weeks |
| Chlorobenzene | Ingestion | immune system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 750 mg/kg/day | 13 weeks |

### Aspiration Hazard

| Name | Value |
|---|---|
| Cyclohexane | Aspiration hazard |
| Xylene | Aspiration hazard |
| Ethylbenzene | Aspiration hazard |
| Toluene | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material

and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable), D021 (Chlorobenzene)

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Cyclohexane | 110-82-7 | 30 - 60 |
| Xylene | 1330-20-7 | 20 - 35 |
| Ethylbenzene | 100-41-4 | 1 - 10 |

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 06-8243-5 | **Version Number:** | 32.02 |
| **Issue Date:** | 01/14/15 | **Supercedes Date:** | 05/15/14 |

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kester®

# SAFETY DATA SHEET (SDS)

according to 1907/2006/EC, Article 31

Printing Date: 12.06.2015 Version number 2 Revision: 20.05.2015

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Trade name: 44 Flux-Cored Lead Free Solder**
**Relevant identified uses of the substance or mixture and uses advised against**
Solder
Professional use of solder

**1.3 Details of the supplier of the safety data sheet**
This Safety Data Sheet has been updated in accordance with the Globally Harmonized System (GHS).
**Manufacturer/Supplier:**
Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Hengqiao Road, Wujiang Economic Development Zone
Suzhou, Jiangsu Province, China 215200
Tel +86 512 82060807

**Further information obtainable from:** Product Compliance: EHS_Kester@kester.com
**1.4 Emergency telephone number:**
TRANSPORT EMERGENCY Phone: CHEMTREC (800) 424-9300 (Outside US & Canada): 00+1 +703 527 3887

## SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture**
**Classification according to Regulation (EC) No 1272/2008**


GHS07

| | | |
|---|---|---|
| Eye Irrit. 2 | H319 | Causes serious eye irritation. |
| Skin Sens. 1 | H317 | May cause an allergic skin reaction. |
| STOT SE 3 | H335 | May cause respiratory irritation. |

**2.2 Label elements**
**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
**Hazard pictograms**


GHS07

**Signal word** Warning
**Hazard statements**
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
**Precautionary statements**

| | |
|---|---|
| P280 | Wear protective gloves / eye protection. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P301+P330+P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P402 | Store in a dry place. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

**Additional information:**
For use in industrial installations only.
Restricted to professional users.

(Continued on page 2)

kester®

**SAFETY DATA SHEET (SDS)**
according to 1907/2006/EC, Article 31

Printing Date: 12.06.2015 Version number 2 Revision: 20.05.2015

**Trade name: 44 Flux-Cored Lead Free Solder**

(Continued from page 1)

**2.3 Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

* 

## SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**
**Description:** Mixture of substances listed below with nonhazardous additions.

| **Chemical components:** | | | |
|---|---|---|---|
| CAS: 7440-31-5<br>EINECS: 231-141-8 | TIN (Sn) | | >65% |
| CAS: 65997-06-0 | Rosin | Skin Sens. 1, H317 | 3.0-5.0% |
| CAS: 7440-22-4<br>EINECS: 231-131-3 | SILVER (Ag) | | 3.0-5.0% |
| CAS: 7440-50-8<br>EINECS: 231-159-6 | COPPER (Cu) | | ^^ |
| CAS: 7440-36-0<br>EINECS: 231-146-5 | ANTIMONY (Sb) | | ^^ |
| CAS: 7440-69-9<br>EINECS: 231-177-4 | BISMUTH (Bi) | | ^^ |

**Additional information:** ^^ See Product Alloy Table
This solder product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.
Composition and weight percent of solder alloys varies widely and can be determined by product label.

* 

## SECTION 4: First aid measures

**4.1 Description of first aid measures**
**General information:** Follow general first aid procedures.
**After inhalation:** Supply fresh air; consult doctor in case of complaints.
**After skin contact:** Immediately wash with water and soap and rinse thoroughly.
**After eye contact:** Rinse opened eye for several minutes under running water.
**After swallowing:** Seek immediate medical advice.
**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
**4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 

## SECTION 5: Firefighting measures

**5.1 Extinguishing media**
**Suitable extinguishing agents:** CO2. Do not use water.
**For safety reasons unsuitable extinguishing agents:** Water
**5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NOx)
Carbon dioxide (CO2)
**5.3 Advice for firefighters**
**Protective equipment:** Wear self-contained respiratory protective device.



(Continued on page 3)

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* 
## SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation
**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
**6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
**6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 
## SECTION 7: Handling and storage

**7.1 Precautions for safe handling**
Prevent formation of dust.
Ensure good ventilation/exhaustion at the workplace.
**Information about fire - and explosion protection:** No special measures required.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage:**
**Requirements to be met by storerooms and receptacles:** Store in a cool location.
**Information about storage in one common storage facility:** Not required.
**Further information about storage conditions:** None.
**7.3 Specific end use(s)** No further relevant information available.

* 
## SECTION 8: Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

| **Ingredients with limit values that require monitoring at the workplace:** |
|---|
| **7440-31-5 TIN (Sn)** |
| PEL Long-term value 2 mg/m³ metal |
| REL Long-term value 2 mg/m³ |
| TLV Long-term value 2 mg/m³ metal |

**8.2 Exposure controls**
**Personal protective equipment:**
**General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
**Respiratory protection:**
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
**Protection of hands:**

Protective gloves

**Material of gloves**
Nitrile rubber, NBR

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Natural rubber, NR
**Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
**Eye protection:** Safety Glasses with Side Shields Required

* 
## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**
**Form:** Solid material
**Colour:** Silver grey
**Odour:** Odourless

**pH-value:** Not applicable.

**Change in condition**
**Melting point/Melting range:** 221-245 °C

**Flash point:** Undetermined.

**Flammability (solid, gaseous):** Not determined.

**Self-igniting:** Product is not selfigniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Vapour pressure:** Not applicable.

**Density at 20 °C:** 7.31-7.42 g/cm³
**Vapour density** Not applicable.

**Solubility in / Miscibility with water:** Insoluble.

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
**10.2 Chemical stability**
**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
**10.3 Possibility of hazardous reactions** No dangerous reactions known.
**10.4 Conditions to avoid** No further relevant information available.
**10.5 Incompatible materials:** Strong acids, strong oxidizers.
**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

* 
## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**
**Acute toxicity**
**Primary irritant effect:**
**Skin corrosion/irritation** Irritant to skin and mucous membranes.
**Serious eye damage/irritation** Smoke during soldering can cause eye irritation.
**Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful

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Irritant

## SECTION 12: Ecological information

**12.1 Toxicity**
**Aquatic toxicity:** No further relevant information available.
**Additional ecological information:**
**General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
**12.5 Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

* 

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**
**Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

**Uncleaned packaging:**
**Recommendation:** Disposal must be made according to official regulations.

* 

## SECTION 14: Transport information

| | |
|---|---|
| **14.1 UN-Number** | Not regulated |
| **14.2 UN proper shipping name** | Not regulated |
| **IMDG, IATA** | Not regulated |
| **14.3 Transport hazard class(es)** | Not regulated |
| **ADR, IMDG, IATA** | |
| **Class** | Not regulated. |
| **14.4 Packing group** | Not regulated |
| **14.5 Environmental hazards:** | Not applicable. |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
All ingredients are listed on the following Government Inventories:
China: Inventory of Existing Chemical Substances in China (IECSC)
Korea: Korea Existing Chemicals List (ECL)
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
Japan: Inventory of Existing and New Chemical Substances (ENCS)
Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

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**Trade name: 44 Flux-Cored Lead Free Solder**

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**Hazard pictograms**

GHS07

**Signal word** Warning
**Hazard statements**
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
**Precautionary statements**

| | |
|---|---|
| P280 | Wear protective gloves / eye protection. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P301+P330+P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P402 | Store in a dry place. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibilty as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Safety Data Sheet (SDS) relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet (SDS) as a source for hazard information.

**Department issuing MSDS:** Product Compliance / EHS Department
**Contact:** EHS_Kester@kester.com
**Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
*** Data compared to the previous version altered.**

## 44 Flux-Cored Lead-Free Products included in this SDS

| Alloy | Diameter | Core | Description | Part # |
|---|---|---|---|---|
| SAC305 | 0.02 | 66 | SN96.5AG03CU.5 #66/44 .020 1 LB SPL | 2470680010 |
| SAC305 | 0.031 | 66 | SN96.5AG03CU.5 #66/44 .031 1 LB SPL | 2470680027 |
| SAC305 | 0.04 | 66 | SN96.5AG03CU.5 #66/44 .040 1 LB SPL | 2470680039 |
| SAC305 | 0.062 | 58 | SN96.5AG03CU.5 #58/44 .062 18 LB SPL | 2770680060 |
| SN95AG5 | 0.02 | 66 | SN95AG05 #66/44 .020 1 LB SPL | 2470700010 |
| SN95AG5 | 0.031 | 50 | SN95AG05 #50/44 .031 1 LB SPL | 2470700025 |
| SN95AG5 | 0.031 | 66 | SN95AG05 #66/44 .031 1 LB SPL | 2470700027 |
| SN95AG5 | 0.032 | 58 | SN95AG05 #58/44 .032 1 LB SPL | 2470700029 |
| SN95AG5 | 0.062 | 58 | SN95AG05 #58/44 .062 1 LB SPL | 2470700060 |
| SN95AG5 | 0.062 | 66 | SN95AG05 #66/44 .062 1 LB SPL | 2470700061 |
| SN95SB5 | 0.025 | 66 | SN95SB05 #66/44 .025 1 LB SPL | 2470800018 |
| SN95SB5 | 0.031 | 50 | SN95SB05 #50/44 .031 4 LB SPL | 2570800025 |
| SN95SB5 | 0.031 | 66 | SN95SB05 #66/44 .031 1 LB SPL | 2470800027 |
| SN95SB5 | 0.031 | 66 | SN95SB05 #66/44 .031 4 LB SPL | 2570800027 |
| SN95SB5 | 0.062 | 58 | SN95SB05 #58/44 .062 1 LB SPL | 2470800060 |
| SN95SB5 | 0.062 | 66 | SN95SB05 #66/44 .062 1 LB SPL | 2470800061 |
| SN96.3AG3.7 | 0.02 | 66 | SN96.3AG3.7 #66/245 .020 1 LB SPL | 2470508808 |
| SN96.3AG3.7 | 0.031 | 50 | SN96.3AG3.7 #50/245 .031 1 LB SPL | 2470508800 |
| SN96.3AG3.7 | 0.04 | 50 | SN96.3AG3.7 #50/245 .040 1 LB SPL | 2470508813 |
| SN96.3AG3.7 | 0.04 | 58 | SN96.3AG3.7 #58/245 .040 1 LB SPL | 2470508846 |
| SN96.3AG3.7 | 0.015 | 66 | SN96.3AG3.7 #66/44 .015 1 LB SPL | 2470500007 |
| SN96.3AG3.7 | 0.02 | 66 | SN96.3AG3.7 #66/44 .020 1 LB SPL | 2470500010 |
| SN96.3AG3.7 | 0.031 | 66 | SN96.3AG3.7 #66/44 .031 1 LB SPL | 2470500027 |
| SN96.3AG3.7 | 0.031 | 70 | SN96.3AG3.7 #70/44 .031 1 LB SPL | 2400960075 |
| SN96.3AG3.7 | 0.04 | 66 | SN96.3AG3.7 #66/44 .040 1 LB SPL | 2470500039 |
| SN96.3AG3.7 | 0.062 | 66 | SN96.3AG3.7 #66/44 .062 1 LB SPL | 2470500061 |
| SN96.3AG3.7 | 0.093 | 66 | SN96.3AG3.7 #66/44 .093 1 LB SPL | 2470500066 |
| SN96.5AG3.5 | 0.02 | 58 | SN96.5AG03.5 #58/44 .020 1 LB SPL | 2470400009 |
| SN96.5AG3.5 | 0.031 | 58 | SN96.5AG03.5 #58/44 .031 1 LB SPL | 2470400026 |
| SN96.5AG3.5 | 0.031 | 66 | SN96.5AG03.5 #66/44 .031 1 LB SPL | 2470400027 |
| SN96.5AG3.5 | 0.062 | 66 | SN96.5AG03.5 #66/44 .062 4 LB SPL | 2570400061 |
| SN96.5AG3.5 | 0.062 | 66 | SN96.5AG03.5 #66/44 .062 1 LB SPL | 2470400061 |
| SN97AG.2SB.8CU2 | 0.031 | 66 | SN97AG.20SB.80CU2 #66/44 .031 1 LB SPL | 2470310027 |
| SN99 | 0.04 | 58 | SN99 #58/44 .040 4 LB SPL | 2570000038 |
| SN99 | 0.062 | 50 | SN99 #50/44 .062 4 LB SPL | 2570000059 |
| SN99 | 0.093 | 58 | SN99 #58/44 .093 4 LB SPL | 2570000065 |
| SN99.3CU.7 | 0.062 | 66 | SN99.3CU.7 #66/44 .062 1 LB SPL | 2470120061 |

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 16-3472-4 | **Version Number:** | 38.00 |
| **Issue Date:** | 04/07/16 | **Supercedes Date:** | 02/16/16 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

**Product Identification Numbers**
62-4977-2924-4, 62-4977-2928-5, 62-4977-4730-3, 62-4977-4922-6, 62-4977-4925-9, 62-4977-4929-1, 62-4977-4930-9, 62-4977-4935-8

**1.2. Recommended use and restrictions on use**

**Recommended use**
Adhesive aerosol, General Purpose Aerosol adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**

Flame | Gas cylinder | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

**Storage:**
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Acetone | 67-64-1 | 20 - 30 Trade Secret * |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Trade Secret* | 20 - 30 Trade Secret * |
| Propane | 74-98-6 | 15 - 25 Trade Secret * |
| Cyclohexane | 110-82-7 | 10 - 20 Trade Secret * |
| Petroleum distillates | 64742-49-0 | 10 - 20 Trade Secret * |
| Hexane | 110-54-3 | < 0.5 |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. Get medical attention.

**Skin Contact:**
Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Aldehydes | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Hexane | 110-54-3 | ACGIH | TWA:50 ppm | Skin Notation |
| Hexane | 110-54-3 | OSHA | TWA:1800 mg/m3(500 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |

| | | | | |
|---|---|---|---|---|
| Petroleum distillates | 64742-49-0 | CMRG | TWA:50 ppm | |
| Acetone | 67-64-1 | ACGIH | TWA:250 ppm;STEL:500 ppm | A4: Not class. as human carcin |
| Acetone | 67-64-1 | OSHA | TWA:2400 mg/m3(1000 ppm) | |
| Propane | 74-98-6 | ACGIH | Limit value not established: | |
| Propane | 74-98-6 | OSHA | TWA:1800 mg/m3(1000 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid aerosol |
| **Specific Physical Form:** | Aerosol |
| **Odor, Color, Grade:** | Clear, sweet, fruity odor |
| **Odor threshold** | *No Data Available* |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *Not Applicable* |

| | |
|---|---|
| **Flash Point** | -42.00 ºF [*Test Method:* Tagliabue Closed Cup] |
| **Evaporation rate** | 1.9 [*Ref Std:* ETHER=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Density** | 2.97 [*Ref Std:* AIR=1] |
| **Density** | 0.726 g/ml |
| **Specific Gravity** | 0.726 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Nil |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *Not Applicable* |
| **Viscosity** | *Not Applicable* |
| **Hazardous Air Pollutants** | <=0.4 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | <=51 % [*Test Method:* calculated SCAQMD rule 443.1] |
| **Solids Content** | >=22.4 % |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE > 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Propane | Inhalation-Gas (4 hours) | Rat | LC50 > 200,000 ppm |
| Acetone | Dermal | Rabbit | LD50 > 15,688 mg/kg |
| Acetone | Inhalation-Vapor (4 hours) | Rat | LC50 76 mg/l |
| Acetone | Ingestion | Rat | LD50 5,800 mg/kg |
| Cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Cyclohexane | Inhalation-Vapor (4 | Rat | LC50 > 32.9 mg/l |

| | | | |
|---|---|---|---|
| | hours) | | |
| Cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| Petroleum distillates | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| Petroleum distillates | Inhalation-Vapor (4 hours) | Rat | LC50 > 14.7 mg/l |
| Petroleum distillates | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Hexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Hexane | Inhalation-Vapor (4 hours) | Rat | LC50 170 mg/l |
| Hexane | Ingestion | Rat | LD50 > 28,700 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane | Rabbit | Minimal irritation |
| Acetone | Mouse | Minimal irritation |
| Cyclohexane | Rabbit | Mild irritant |
| Petroleum distillates | Rabbit | Irritant |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Professional judgement | Minimal irritation |
| Hexane | Human and animal | Mild irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane | Rabbit | Mild irritant |
| Acetone | Rabbit | Severe irritant |
| Cyclohexane | Rabbit | Mild irritant |
| Petroleum distillates | Rabbit | Mild irritant |
| Hexane | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Petroleum distillates | Guinea pig | Not sensitizing |
| Hexane | Human | Not sensitizing |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Propane | In Vitro | Not mutagenic |
| Acetone | In vivo | Not mutagenic |
| Acetone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Petroleum distillates | In Vitro | Not mutagenic |
| Hexane | In Vitro | Not mutagenic |

| | | |
|---|---|---|
| Hexane | In vivo | Not mutagenic |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Acetone | Not Specified | Multiple animal species | Not carcinogenic |
| Petroleum distillates | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Hexane | Dermal | Mouse | Not carcinogenic |
| Hexane | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Acetone | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 5.2 mg/l | during organogenesis |
| Cyclohexane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |
| Hexane | Ingestion | Not toxic to development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesis |
| Hexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.7 mg/l | during gestation |
| Hexane | Ingestion | Toxic to male reproduction | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| Hexane | Inhalation | Toxic to male reproduction | Rat | LOAEL 3.52 mg/l | 28 days |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Propane | Inhalation | cardiac sensitization | Causes damage to organs | Human | NOAEL Not available | |
| Propane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Propane | Inhalation | respiratory irritation | All data are negative | Human | NOAEL Not available | |
| Acetone | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Acetone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous | May cause drowsiness or | Human | NOAEL Not | poisoning |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | system depression | dizziness | | available | and/or abuse |
| Cyclohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| Cyclohexane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Petroleum distillates | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Petroleum distillates | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Petroleum distillates | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Hexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| Hexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL Not available | 8 hours |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24.6 mg/l | 8 hours |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Acetone | Dermal | eyes | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 3 mg/l | 6 weeks |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart \| liver | All data are negative | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 3,896 mg/kg/day | 14 days |
| Acetone | Ingestion | eyes | All data are negative | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | All data are negative | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | All data are negative | Rat | NOAEL 2,500 mg/kg | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| Acetone | Ingestion | skin \| bone, teeth, nails, and/or hair | All data are negative | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| Cyclohexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |
| Cyclohexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| Cyclohexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |
| Hexane | Inhalation | peripheral nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 1.76 mg/l | 13 weeks |
| Hexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 months |
| Hexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.76 mg/l | 6 months |
| Hexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 35.2 mg/l | 13 weeks |
| Hexane | Inhalation | auditory system \| immune system \| eyes | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | heart \| skin \| endocrine system | All data are negative | Rat | NOAEL 1.76 mg/l | 6 months |
| Hexane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| Hexane | Ingestion | endocrine system \| hematopoietic system \| liver \| immune system \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 13 weeks |

**Aspiration Hazard**

| Name | Value |
|---|---|
| Cyclohexane | Aspiration hazard |
| Petroleum distillates | Aspiration hazard |
| Hexane | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

# SECTION 12: Ecological information

## Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

## Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material

and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Cyclohexane | 110-82-7 | Trade Secret 10 - 20 |

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
**Aerosol Storage Code:** 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include

the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**
**Health:** *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|---|---|---|---|
| **Document Group:** | 16-3472-4 | **Version Number:** | 38.00 |
| **Issue Date:** | 04/07/16 | **Supercedes Date:** | 02/16/16 |

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# SAFETY DATA SHEET

**Issuing Date** 12-May-2015 **Revision Date** 12-May-2015 **Revision Number** 0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**GHS product identifier**

**Product Name** **JET-LUBE® 550®**

**Other means of identification**

**Product Code(s)** **155**

**UN-Number** UN3082

**Synonyms** 550®

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Lubricants, Greases and Release Products, Sealant

**Uses advised against** No information available

**Supplier's details**

**Manufacturer Address**
Jet-Lube, Inc.
4849 Homestead Rd.
Suite 232
Houston, Texas 77028
TEL: 713-670-5700 (7:00 a.m. - 5:00 p.m.)

**Emergency telephone number**

**Emergency Telephone Number** CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is not considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

**GHS Label elements, including precautionary statements**

**Emergency Overview**

**Signal Word** **None**

The product contains no substances which at their given concentration are considered to be hazardous to health

**Appearance** gray to black **Physical State** Semi-fluid (gel). **Odor** Petroleum Oil-Pungent

**Precautionary Statements**

**Prevention**

- None

**General Advice**
• None

**Storage**
• None

**Disposal**
• None

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**
Toxic to aquatic life with long lasting effects

23.8% of the mixture consists of ingredient(s) of unknown toxicity.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** 550®

| Chemical Name | CAS-No | Weight % | Trade secret |
|---|---|---|---|
| Zinc oxide | 1314-13-2 | 10-15 | * |
| Limestone | 1317-65-3 | 5-10 | * |
| Graphite | 7782-42-5 | 5-10 | * |
| Molybdenum (IV) sulfide | 1317-33-5 | 1-5 | * |

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

## 4. FIRST AID MEASURES

**Description of necessary first-aid measures**

**Eye Contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin Contact** Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

**Inhalation** Move to fresh air.

**Ingestion** Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Do not use a solid water stream as it may scatter and spread fire.

**Specific Hazards Arising from the Chemical**
Burning produces obnoxious and toxic fumes. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Heavy metal compounds

**Explosion Data**

| | |
|---|---|
| **Sensitivity to Mechanical Impact** | None. |
| **Sensitivity to Static Discharge** | None. |

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment. Avoid contact with the skin and the eyes.

**Environmental Precautions**

**Environmental Precautions** Do not allow material to contaminate ground water system. Avoid release to the environment. Dispose of contents/container to an approved waste disposal plant. Collect spillage. See Section 12 for additional Ecological Information. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Take up mechanically and collect in suitable container for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** Wear personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** Strong oxidizing agents.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Zinc oxide<br>1314-13-2 | STEL: 10 mg/m³ respirable fraction<br>TWA: 2 mg/m³ respirable fraction | TWA: 5 mg/m³ fume<br>TWA: 15 mg/m³ total dust<br>TWA: 5 mg/m³ respirable fraction<br>(vacated) TWA: 5 mg/m³ fume<br>(vacated) TWA: 10 mg/m³ total dust<br>(vacated) TWA: 5 mg/m³ respirable fraction<br>(vacated) STEL: 10 mg/m³ fume | IDLH: 500 mg/m³<br>Ceiling: 15 mg/m³ dust<br>TWA: 5 mg/m³ dust and fume<br>STEL: 10 mg/m³ fume |
| Limestone<br>1317-65-3 | - | TWA: 15 mg/m³<br>TWA: 5 mg/m³<br>(vacated) TWA: 15 mg/m³<br>(vacated) TWA: 5 mg/m³ | TWA: 5 mg/m³ respirable dust<br>TWA: 10 mg/m³ total dust |

| | | | |
|---|---|---|---|
| Graphite<br>7782-42-5 | - | TWA: 15 mg/m³ total dust synthetic<br>TWA: 5 mg/m³ total dust synthetic<br>(vacated) TWA: 2.5 mg/m³ respirable dust natural<br>(vacated) TWA: 10 mg/m³ total dust synthetic<br>(vacated) TWA: 5 mg/m³ respirable fraction synthetic<br>TWA: 15 mppcf natural | IDLH: 1250 mg/m³<br>TWA: 2.5 mg/m³ respirable dust |
| Molybdenum (IV) sulfide<br>1317-33-5 | TWA: 10 mg/m³ Mo inhalable fraction<br>TWA: 3 mg/m³ Mo respirable fraction | TWA: 15 mg/m³ total dust<br>(vacated) TWA: 10 mg/m³ Mo | IDLH: 5000 mg/m³ Mo |

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Safety glasses with side-shields.
**Skin and Body Protection** Long sleeved clothing. Protective gloves.
**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical State** Semi-fluid (gel)
**Odor** Petroleum Oil-Pungent
**Appearance** gray to black
**Odor Threshold** No information available

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH** | Neutral | None known |
| **Melting Point/Range** | 260 °C / 500 °F | None known |
| **Boiling Point/Boiling Range** | > 316 °C / 600.8 °F | None known |
| **Flash Point** | > 221 °C | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limits in Air** | | |
| **upper flammability limit** | No data available | |
| **lower flammability limit** | No data available | |
| **Vapor Pressure** | No data available | None known |
| **Vapor Density** | No data available | None known |
| **Specific Gravity** | 1.19 | None known |
| **Water Solubility** | Negligible | None known |
| **Solubility in other solvents** | Largely. | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition Temperature** | No data available | None known |
| **Decomposition Temperature** | No data available | None known |
| **Viscosity** | No data available | None known |

**Flammable Properties** Not flammable

**Explosive Properties** No data available
**Oxidizing Properties** No data available

**Other information**

**VOC Content (%)** No data available

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

Strong oxidizing agents.

**Hazardous decomposition products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | None under normal use condtions |
| **Eye Contact** | Contact with eyes may cause irritation. |
| **Skin Contact** | Non-irritating during normal use. Prolonged or repeated contact may dry skin and cause irritation |
| **Ingestion** | Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Zinc oxide | > 5000 mg/kg ( Rat ) | - | - |
| Molybdenum (IV) sulfide | - | - | > 2820 mg/m³ ( Rat ) 4 h |

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

| | |
|---|---|
| **Sensitization** | No information available. |
| **Mutagenic Effects** | No information available. |
| **Carcinogenicity** | Contains no ingredients above reportable quantities listed as a carcinogen. |

| | |
|---|---|
| **Reproductive Toxicity** | No information available. |
| **STOT - single exposure** | No information available. |
| **STOT - repeated exposure** | No information available. |

**Aspiration Hazard** No information available.

**Numerical measures of toxicity - Product**

**Acute Toxicity** 23.8% of the mixture consists of ingredient(s) of unknown toxicity.

*The following values are calculated based on chapter 3.1 of the GHS document:*

**LD50 Oral** 2652 mg/kg; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|---|---|---|---|
| Zinc oxide<br>1314-13-2 | Selenastrum capricornutum<br>72-hour EC50: 0.14 mg/l | Oncorhynchus mykiss<br>96-hour LC50: 0.14 mg/l | | Daphnia magna<br>48-hour EC50: 0.07 mg/l |

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

**Other Adverse Effects**

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated Packaging** Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

**DOT**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper shipping name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III, Marine Pollutant |
| **Emergency Response Guide Number** | 171 |

**TDG**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III, Marine Pollutant |

**MEX**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III |

**ICAO**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper shipping name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III |

**IATA**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **ERG Code** | 9L |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III |

**IMDG/IMO**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **EmS No.** | F-A, S-F |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III, Marine Pollutant |

**RID**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Classification Code** | M6 |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III |

**ADR**

| | |
|---|---|
| **UN-Number** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Classification Code** | M6 |
| **Tunnel Restriction Code** | (E) |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III, (E) |

**ADN**

| | |
|---|---|
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Hazard Class** | 9 |
| **Packing Group** | III |
| **Classification Code** | M6 |
| **Special Provisions** | 274, 335, 601 |
| **Description** | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide), 9, III |
| **Limited Quantity** | 5 L |

## 15. REGULATORY INFORMATION

### International Inventories

### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Zinc oxide | 1314-13-2 | 1-2 | 1.0 |

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | No |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | No |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| Zinc oxide | | X | | |

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## U.S. State Regulations

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

## U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Zinc oxide | X | X | X | | |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health Hazard** 1 | **Flammability** 1 | **Instability** 0 | **Physical and Chemical Hazards** - |
| **HMIS** | **Health Hazard** 1 | **Flammability** 1 | **Physical Hazard** 0 | **Personal Protection** X |

**Prepared By**

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Issuing Date** 12-May-2015
**Revision Date** 12-May-2015
**Revision Note** Initial Release.

**General Disclaimer**

**The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# MATERIAL SAFETY DATA SHEET
# GLASS BEAD BLASTING MEDIA

 **DATE OF ISSUE: APRIL 2001**

## STATEMENT OF HAZARDOUS NATURE

This substance is Non Toxic, Non Hazardous, Chemically Inert and Non Combustible.

## SUPPLIER DETAILS

| | |
|---|---|
| Name | Burwell Abrasive Blasting Equipment |
| Address | 291 Milperra Road Revesby NSW 2212 |
| Telephone No | (02) 9792 2733 |
| Facsimile No | (02) 9792 2866 |
| Contact | Len Williamson |
| Emergency Telephone No | 0417 027772 |

## IDENTIFICATION

| | | | |
|---|---|---|---|
| **Product Name** | Ballotini Impact Spheres | **UN Number:** | None Allocated |
| **Other Names** | Glass Bead, Microspheres | **Hazchem Code:** | None Allocated |
| **Use** | Abrasive Blasting Media | **Dangerous Goods:** | None Allocated |
| | | **Class and Sub-risk:** | None Allocated |
| | | **Poisons Schedule:** | Not Scheduled |

### Physical Description/Properties

| | | | |
|---|---|---|---|
| **Appearance** | Odourless White Powder Granules Ranging in Sizes 95 UM - 2000 UM | **Flashpoint (0ºC):** | Not Combustible |
| | | **Flammability Limits (%):** | Not Relevant |
| | | **Solubility in Water (g/L):** | Non-Soluble |
| **Melting Point (0ºC)** | 750ºC | | |

### Other Properties

| | |
|---|---|
| Hardness | 6.0 Mhos |
| Chlorides | <5 ppm |
| Specific Gravity | 2.46 |
| Free Silica (alpha quartz) | Nil |

### Packaging

25kg Paper Bags

## HEALTH HAZARD INFORMATION

### HEALTH EFFECTS

| | | |
|---|---|---|
| **Acute** | Swallowed: | Non Toxic |
| | Eye: | Mechanical irritant |
| | Skin: | Direct contact with material under pressure may abrade or damage skin. |
| | Inhaled: | May irritate if exposure is excessive. Prolonged exposure to high level may have debilitating effect on the lungs. |
| **First Aid** | Swallowed: | Rinse mouth thoroughly with water. Seek medical attention if large quantities have been Ingested. |
| | Eye: | Remove foreign body, flush with water |
| | Skin | Clean and dress open wounds |
| | Inhaled: | Move to fresh air |
| | First Aid Facilities: | General first aid equipment for treatment of cuts and abrasions |
| **Advice to Doctor** | | Treat Symptomatically |

# GLASS BEAD BLASTING MEDIA



## PRECAUTIONS FOR USE

### Exposure Standards

Australian Regulations nominate TLV (TWA) 10mg/$m^3$ as total dust, 5 mg/$m^3$ as respirable dust.

### Engineering Controls

- Ensure ventilation is adequate to maintain dust exposure below the exposure standard for personnel adjacent to the grit blasting area.
- Ensure that all blast cleaning equipment complies with Workcover and all appropriate Regulatory Authority Regulations and Codes of Practice.

### Personal Protection

Operator must wear Abrasive Blast Helmet Air Line Respirator of a type complying with AS1716. A protective Leather Jacket or suit, Leather Hand and Foot protection with Steel Toe Cap inserts. Use hearing protection when working in blast cleaning operations.

### Flammability

Not flammable.

## SAFE HANDLING INFORMATION

### Storage and Transport

Bags to remain closed and bulk loads covered to avoid dusting. Use good housekeeping practices to reduce dust.

### Spills and Disposal

**Product is extremely slippery under foot**. Sweep up spills immediately.
Sweep or vacuum material for disposal. Prevent generation of dust during clean up. Disposal through approved land waste site**. MATERIAL CONTAMINATED IN USE MAY REQUIRE SPECIAL HANDLING.**

### Fire/Explosion Hazard

**Avoid contact with hydrofluoric acid.**
As with any dust, there is the potential for a dust explosion and thus ventilation should be such that gross levels of dust do not accumulate.

## IMPORTANT NOTE

This information is furnished without warranty, representation, endorsement or licence of any kind, except that it is accurate to the best of Burwell's knowledge or obtained from sources believed by Burwell to be accurate and Burwell does not assume any legal responsibility for use or reliance upon same. Users are encouraged to conduct their own tests before using or disposal of this product.

**Permatex, Inc.**
**10 Columbus Blvd.**
**Hartford, CT 06106 USA**
**Telephone: 1-87-Permatex**
**(877) 376-2839**
**Emergency: 800-255-3924**
**International Emergency: 813-348-0585**

# Material Safety Data Sheet

## 1. PRODUCT IDENTIFICATION

**Product Name:** **78E HYDRAULIC JACK OIL 1QT CN**
**Item No:** **80054**
**Product Type:** **Lubricant**

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | Percent | ACGIH 8 Hr. TWA: | OSHA 8 Hr. TWA: |
|---|---|---|---|
| DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC 64742-52-5 | 90-100 | 5 mg/m$^3$ mist | 5 mg/m$^3$ mist |
| POLYMETHACRYLATE DISPERSION MIXTURE | 1-10 | Not Listed | Not Listed |

## 3. HAZARDS IDENTIFICATION

**Toxicity:** May cause eye, skin and respiratory irritation. Prolonged skin contact may result in dermatitis in sensitive individuals. Aspiration hazard if swallowed.

**Primary Routes of Entry:** Eye and skin contact, ingestion, inhalation.

**Signs and Symptoms of Exposure:** Overexposure may cause eye and skin redness. Inhaling may cause mild irritation to the nose, throat and respiratory tract and may result in central nervous system (CNS) depression.

**Medical Conditions Recognized as Being Aggravated by Exposure:** Preexisting pulmonary and dermatological disorders

## 4. FIRST AID MEASURES

**Ingestion:** If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention..

**Skin Contact:** Remove contaminated clothing. Wash area with soap and water. If irritation persists, seek medical attention.

**Eye Contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

## 5. FIRE FIGHTING MEASURES

**Flash Point (°F/C):** Greater than 200 degrees F.

**Recommended Extinguishing Media:** Carbon Dioxide, Dry Chemicals, Foam.

**Special Fire-Fighting Procedures:** Firefighters should wear self-contained breathing apparatus.

**Hazardous Products Formed by Fire or Thermal Decomposition:** Carbon monoxide, Carbon dioxide,

**Unusual Fire/Explosion Hazards:** Closed containers may rupture or explode when exposed to extreme heat.

**Lower Explosive Limit:** Not determined.

**Upper Explosive Limit:** Not determined.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill Procedures:** Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal. Residues may be cleaned up with soap and water.

## 7. HANDLING AND STORAGE

**Storage:** Store away from heat, sparks or open flame. Do not store at temperatures above 120 degrees F.

**Handling:** Avoid prolonged skin contact. Keep away from eyes. Do not inhale vapors.

**Product name:** 78E HYDRAULIC JACK OIL 1QT CN **Item** 80054

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eyes:** Safety glasses or goggles.
**Skin:** Oil resistant neoprene or plastic gloves.
**Ventilation:** General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.
**Respiratory Protection:** An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Amber liquid
**Odor:** Mild petroleum odor.
**Boiling Point (°F):** More than 500 degrees F.
**pH:** Does not apply
**Solubility in Water:** Nil
**Specific Gravity:** 0.905 @ 15 degrees C.
**VOC Content(Wt.%):** 21.6% by weight; 195 g/l
**Vapor Pressure:** Less than 5 mm Hg
**Vapor Density (Air=1):** Greater than 1
**Evaporation Rate:** <1 (butyl acetate = 1)

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable at normal conditions
**Hazardous Polymerization:** WILL NOT OCCUR
**Incompatabilities:** Strong oxidizers.
**Conditions to Avoid:** High temperatures.
**Hazardous Products Formed by Fire or Thermal Decomposition:** Carbon monoxide, Carbon dioxide,

## 11. TOXICOLOGICAL INFORMATION

**See Section 3**

## 12. ECOLOGICAL INFORMATION

**No data available**

## 13. DISPOSAL CONSIDERATIONS

**Recommended Method of Disposal:** Disposal should be made in accordance with federal, state and local regulations.
**US EPA Waste Number:** NH - Not a RCRA Hazardous Waste Material

## 14. TRANSPORTATION INFORMATION

**DOT (49CFR 172)**

**Domestic Ground Transport**

**DOT Shipping Name:** Unrestricted
**Hazard Class:** NONE
**UN/ID Number:** None
**Marine Pollutant:** None

**IATA**

**Proper Shipping Name:** Unrestricted
**Class or Division:** None
**UN/NA Number:** None

**IMDG**

**Proper Shipping:** Unrestricted
**Hazard Class:** None
**UN Number:** None

## 15. REGULATORY INFORMATION

**SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.**

**SARA 313 Information**
NONE

**Product name:** 78E HYDRAULIC JACK OIL 1QT CN **Item** 80054

**CALIFORNIA PROP 65:**
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA Inventory Status:**
**Listed on Inventory: YES** All components of this product are listed (or exempt) on the EPA TSCA inventory.

## 16. OTHER INFORMATION

**Estimated NFPA Rating:** HEALTH 1, FLAMMABILITY 1 , REACTIVITY 0
**Estimated HMIS Classification:** HEALTH 1, FLAMMABILITY 1, PHYSICAL HAZARD 0

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

**Prepared By:** Denise Boyd, Health and Safety Manager
**Company:** Permatex. Inc. 10 Columbus Blvd. Hartford, CT USA 06106
**Telephone Number:** 1-87-Permatex (877) 376-2839

**Revision Date:** 03/03/2004
**Revision Number:** 2

**870**

# MATERIAL SAFETY DATA SHEET

**Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200**

Date of Prep: 01/04/02

## SECTION 1

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090 (847) 541-5700
EMERGENCY TELEPHONE (800) 424-9300

FOR INFORMATION: (847) 541-5700
- SUNNYSIDE CORPORATION
- CHEM TREC

Product Class: Terpene Hydrocarbons
Trade Name: Gum Spirits of Turpentine

Manufacturer's Code: 870
NPCA HMIS: Health: 2
Flammability: 3
Reactivity: 1

Product Appearance and Odor: Clear, colorless to pale yellow liquid with characteristic pineaceous odor.

## SECTION 2 -- HAZARDOUS INGREDIENTS

**OCCUPATIONAL EXPOSURE LIMITS**

| INGREDIENT | CAS # | PERCENT | ACGIH TLV (TWA) | ACGIH TLV (STEL) | OSHA PEL (TWA) | OSHA PEL (STEL) | VAPOR PRESSURE |
|---|---|---|---|---|---|---|---|
| Gum Turpentine | 9005-90-7 | | 100 PPM | 150 PPM | 100 PPM | | 4 MM Hg @ 20° C. |
| Terpene Hydrocarbons | 8006-64-2 | | Not est. | | Not est. | | 2 MM Hg @ 20° C |

## SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove victim to fresh air. Get medical attention if irritation persists or for excessive exposures.

Eye Contact: Remove contact lenses. Promptly flush eyes with copious quantities of running water for at least 15 minutes. Get medical attention promptly.

Skin Contact: Wash exposed areas with water and soap. Remove contaminated clothing promptly (launder before reuse). Get medical attention if irritation persists.

Ingestion: Do not induce vomiting. Give 1 or 2 glasses of water or milk. Get medical attention promptly.

## SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

Boiling Range: 302-320° F.
Vapor Density: Heavier Than air
Evaporation Rate: Slower than ether
% Volatile By Volume: 99% +
Weight Per Gallon: 7.20 Lbs.
Solubility in Water: Negligible; 0.02% by weight.

## SECTION 5 -- FIRE AND EXPLOSION DATA

Flammability Classification: Flammable Liquid - Class IC.

Flash Point: 91° F. (Tag. Closed Cup)

Autoignition Temperature: Not established.

Lower Explosive Limit: Not established.

Extinguishing Media: Carbon Dioxide, dry chemical, or foam. Water may be ineffective.

Unusual Fire and Explosion Hazards: Flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

Special Fire Fighting Procedures: When heated, material is a moderate fire and explosion hazard, use water spray to cool fire exposed containers. Firefighters and others exposed to products of combustion should wear self-contained breathing apparatus and full firefighting protective clothing. Dike area to prevent runoff.

## SECTION 6 -- HEALTH HAZARD DATA

| | |
|---|---|
| THRESHOLD LIMIT VALUE: | Not established for mixture – See section 2. |
| EFFECTS OF OVEREXPOSURE | |
| Skin Contact: | Can cause dermatitis or chemical burns. It can penetrate the skin to produce systemic effects. |
| Eye Contact: | Is irritating and damaging. It can cause conjunctivitis or corneal burns. Can irritate the eyes. |
| Inhalation: | Vapors or mist are irritating and can produce headaches, dizziness, vertigo, chest pain, bronchitis, pulmonary edema, cyanosis, narcosis, accelerated pulse. |
| Ingestion: | Can produce nausea, serious illness or even death. (Mean lethal dose, adult, 4-6 oz.) |
| Chronic Exposure: | May cause predisposition to pneumonia and chronic nephritis. Chronic exposure can produce allergenic sensitization. Possibility of teratogenic effects exists for pregnant women. |
| Carcinogenicity: | Components of this product have been identified as carcinogens by NTP, IARC, or OSHA. |

## SECTION 7 -- REACTIVITY DATA

| | |
|---|---|
| Stability: | Reasonably stable when stored in a well ventilated, cool place in suitable containers sealed to exclude air. |
| Conditions to Avoid: | Turpentine can undergo autoxidation in air and generate heat which can build up in a confined space, causing spontaneous combustion. |
| Incompatibility (Materials to Avoid): | Acids or acidic materials, strong oxidizing agents, strong bases and Iodine Pentafluoroethylene. |
| Hazardous Decomposition Products: | Carbon monoxide and/or carbon dioxide and water. |
| Hazardous Polymerization: | May occur from contamination with acids. |

## SECTION 8 -- SPILL OR LEAK PROCEDURES

Steps to be taken in case material is spilled or released: Provide adequate explosion proof ventilation to remove fumes from spill area. Where exposure level is not known, wear NIOSH approved positive pressure self-contained respirator. Personnel should use protection against contact with liquids as well as against breathing vapors. Pick up with absorbent material and place in a waste disposal container. Due to spontaneous combustion hazard, use sand rather than oil dri. Flush area with water.

Waste disposal method: Burning is recommended for waste disposal, using an approved incinerator. Dispose of in accordance with local, state and federal regulations.

## SECTION 9 -- SAFE HANDLING AND USE INFORMATION

| | |
|---|---|
| Respiratory Protection: | For high exposures use NIOSH approved air line or self-contained respirators. A full face mask is needed to prevent eye irritation from vapors. NIOSH approved organic-vapor respirator may be used for low exposure levels. |
| Ventilation: | Good enclosure and local exhaust. Ventilation should be used to maintain air concentrations below occupational exposure limits. |
| Protective Gloves: | Wear impervious gloves to minimize skin contact. |
| Eye Protection: | Wear chemical splash goggles. Provide eye bath. |
| Other Protective Equipment: | Provide safety shower in area of use. |

## SECTION 10 -- SPECIAL PRECAUTIONS

| | |
|---|---|
| Dept. of Labor Storage Category: | Flammable liquid - Class 1C. |
| Hygienic Practices: | Store in well ventilated, cool dry place away from sources of heat and ignition. No smoking in areas of storage or use. |
| Additional Precautions: | Ground containers when transferring liquid to prevent static accumulation and discharge. Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents" (American Petroleum Institute, 1720 L Street Northwest, Washington,DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101). |
| Empty Container Warning: | "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to supplier or disposed of in an environmentally safe manner and in accordance with governmental regulations. |

## SECTION 11 -- ADDITIONAL INFORMATION

This product contains the following toxic chemical(s) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

| TOXIC CHEMICAL | CAS # | APPROXIMATE % BY WEIGHT |
|---|---|---|
| NONE | NONE | NONE |

SARA Title III Hazard Categories: Immediate (Acute) Health, Delayed (Chronic) Health, Fire.

TRANSPORTATION *(U.S. Dot land transportation in packages of 119 gallons or less)

U.S. D.O.T. Proper Shipping Name: Turpentine

U.S. D.O.T. Hazard Class & Packing group 3, III

U.S. D.O.T. I.D. Number: UN 1299

*Refer to CFR49 for additional information. Exceptions or exemptions may exist for small quantities.

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Product number** | 945-003 |
| **Product name** | **Silicone Spray** |
| **Effective date** | 11-May-2010 |
| **Company information** | Sprayway, Inc.<br>484 Vista Ave.<br>Addison, IL 60101 United States |
| **Company phone** | General Assistance 1-630-628-3000 |
| **Emergency telephone US** | 800-424-9300 |
| **Emergency telephone outside US** | 703-527-3887 |
| **Version #** | 08 |
| **Supersedes date** | 12-Feb-2010 |

## 2. Hazards Identification

**Emergency overview**

Aerosol. CONTENTS UNDER PRESSURE.
Irritating to eyes. Irritating to respiratory system. EXTREMELY FLAMMABLE
Prolonged exposure may cause chronic effects.

**Potential health effects**

| | |
|---|---|
| **Routes of exposure** | Eye contact. Inhalation. Ingestion. |
| **Eyes** | Causes eye irritation. |
| **Skin** | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. |
| **Inhalation** | Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Irritating to respiratory system. Prolonged inhalation may be harmful. |
| **Ingestion** | Exposure by ingestion of an aerosol is unlikely. May cause delayed lung damage. Components of the product may be absorbed into the body by ingestion. |
| **Target organs** | Central nervous system. Lungs. |
| **Chronic effects** | May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause delayed lung injury. |
| **Signs and symptoms** | Discomfort in the chest. Narcosis. Coughing. Defatting of the skin. Skin irritation. |

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|---|---|---|
| Propane | 74-98-6 | 40 - 50 |
| Aliphatic Petroleum Solvent | 64742-89-8 | 40 - 50 |
| Odorless Mineral Spirits | 64742-48-9 | 5 - 8 |
| Non-hazardous and other components below reportable levels | | 1 - 2.5 |

## 4. First Aid Measures

**First aid procedures**

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. |
| **Skin contact** | Wash off with warm water and soap. Get medical attention if irritation develops and persists. |
| **Inhalation** | If symptoms develop move victim to fresh air. For breathing difficulties, oxygen may be necessary. Get medical attention if symptoms persist. |
| **Ingestion** | Call a physician immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. |

## 5. Fire Fighting Measures

**Flammable properties** Heat may cause the containers to explode. Vapor or gas may spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard.

**Extinguishing media**

**Suitable extinguishing media** Water. Water spray. Water fog. Carbon dioxide (CO2). Dry chemicals.

**Protection of firefighters**

**Protective equipment and precautions for firefighters** In case of fire and/or explosion do not breathe fumes. Containers should be cooled with water to prevent vapor pressure build up. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

## 6. Accidental Release Measures

**Methods for containment** Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. After removal flush contaminated area thoroughly with water.

## 7. Handling and Storage

**Handling** Pressurized container: Do not pierce or burn, even after use. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke while using or until sprayed surface is thoroughly dry. Use only in area provided with appropriate exhaust ventilation. Do not use if spray button is missing or defective. Do not re-use empty containers. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment. Avoid prolonged exposure.

**Storage** Level 3 Aerosol.

Contents under pressure. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Avoid exposure to long periods of sunlight. Store in cool place. Store in a well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Level 3 Aerosol.

## 8. Exposure Controls / Personal Protection

**Exposure limits**

**ACGIH**

| Components | CAS # | TWA | STEL | Ceiling |
|---|---|---|---|---|
| Propane | 74-98-6 | 1000 ppm | Not established | Not established |

**OSHA**

| Components | CAS # | TWA | STEL | Ceiling |
|---|---|---|---|---|
| Propane | 74-98-6 | 1000 ppm | Not established | Not established |

**Personal protective equipment**

**Eye / face protection** Chemical goggles are recommended.

**Skin protection** Wear appropriate chemical resistant clothing. Chemical resistant gloves.

**Respiratory protection** Wear positive pressure self-contained breathing apparatus (SCBA). If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

## 9. Physical & Chemical Properties

**Appearance** Compressed liquefied gas.

**Boiling point** 46.4 °F (7.8 °C) estimated

| | |
|---|---|
| **Color** | clear colorless |
| **Flammability (HOC)** | 41.9681 kJ/g estimated |
| **Flash back** | Yes |
| **Flash point** | -156 °F (-104.4 °C) Propellant |
| **Form** | Aerosol. |
| **Odor** | solvent |
| **pH** | Not applicable |
| **Physical state** | Liquid. |
| **Pressure** | 77 - 87 psig @ 70F |
| **Solubility** | Partially |
| **Specific gravity** | 0.5915 estimated |

## 10. Chemical Stability & Reactivity Information

**Incompatible materials** Strong oxidizing agents.

## 11. Toxicological Information

**Acute effects**

Acute LD50: 5928 mg/kg estimated, Rat, Dermal
Acute LC50: 1316 mg/l/4h estimated, Rat, Inhalation

**Component analysis - LD50**

**Toxicology Data - Selected LD50s and LC50s**

| | | |
|---|---|---|
| Aliphatic Petroleum Solvent | 64742-89-8 | Oral LD50 Mouse 5000 mg/kg; Dermal LD50 Rabbit 3000 mg/kg |
| Odorless Mineral Spirits | 64742-48-9 | Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >3160 mg/kg |
| Propane | 74-98-6 | Inhalation LC50 Rat 658 mg/L 4 h |

## 12. Ecological Information

**Ecotoxicity**

LC50 41509 mg/L, Fish, 96.00 Hours,
EC50 , Daphnia, 48.00 Hours,
Contains a substance which causes risk of hazardous effects to the environment.

## 13. Disposal Considerations

**Waste codes** D001: Waste Flammable material with a flash point <140 F

**Disposal instructions** Contents under pressure. Dispose of this material and its container to hazardous or special waste collection point. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001.

## 14. Transport Information

**Department of Transportation (DOT) Requirements**

**Basic shipping requirements:**

| | |
|---|---|
| **Proper shipping name** | Consumer commodity |
| **Hazard class** | ORM-D |
| **Subsidiary hazard class** | None |
| **Additional information:** | |
| **Packaging exceptions** | 156, 306 |
| **Packaging non bulk** | 156, 306 |
| **Packaging bulk** | None |

**IMDG**

**Basic shipping requirements:**

| | |
|---|---|
| **Proper shipping name** | AEROSOLS |
| **Hazard class** | 2.1 |
| **UN number** | 1950 |
| **Additional information:** | |
| **Packaging exceptions** | LTD QTY |
| **Labels required** | None |

**IATA**

| | |
|---|---|
| **Basic shipping requirements:** | |
| **Proper shipping name** | Aerosols, flammable |
| **Hazard class** | 2.1 |
| **UN number** | 1950 |
| **Additional information:** | |
| **Packaging exceptions** | LTD QTY |
| **Labels required** | None |


## 15. Regulatory Information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
CERCLA/SARA Hazardous Substances - Not applicable.

**Occupational Safety and Health Administration (OSHA)**

| | |
|---|---|
| **29 CFR 1910.1200 hazardous chemical** | Yes |

**CERCLA (Superfund) reportable quantity**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

| | |
|---|---|
| **Section 302 extremely hazardous substance** | No |
| **Section 311 hazardous chemical** | Yes |
| **Hazard categories (311/312)** | Immediate Hazard - Yes<br>Delayed Hazard - Yes<br>Fire Hazard - Yes<br>Pressure Hazard - Yes<br>Reactivity Hazard - No |

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of New and Existing Chemicals (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations**

**U.S. - Pennsylvania - RTK (Right to Know) List**

| | | |
|---|---|---|
| Aliphatic Petroleum Solvent | 64742-89-8 | Present |
| Odorless Mineral Spirits | 64742-48-9 | Present |
| Propane | 74-98-6 | Present |

## 16. Other Information

| | |
|---|---|
| **Further information** | HMIS® is a registered trade and service mark of the NPCA. |
| **HMIS® ratings** | Health: 1*<br>Flammability: 4<br>Physical hazard: 0 |
| **Disclaimer** | The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available. |
| **MSDS sections updated** | This document has undergone significant changes and should be reviewed in its entirety. |
| **Prepared by** | Regulatory Compliance |

**PLASKOLITE, LLC.**

# SAFETY DATA SHEET
## ABS Sheet

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | |
|---|---|
| Trade Name: | ABS Sheet |
| Other Name(s): | Thermoplastic polymer sheet |
| Usage: | Plastic sheet products |
| Supplier: | Plaskolite, LLC.<br>1770 Joyce Avenue, Columbus, Ohio 43219, USA<br>Telephone: 614-294-3281<br>www.plaskolite.com |
| Emergency Telephone: | 614-294-3281 |

## 2. HAZARDS IDENTIFICATION

**This material is classified as not hazardous under OSHA regulations.** Under normal conditions of use, this product is not expected to create any unusual industrial hazards. Irritating gases/fumes may be given off during burning or thermal decomposition. Contact with hot material will cause thermal burns.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: 100% Acrylonitrile-butadiene-styrene (ABS) copolymer [CAS# 9003-56-9]

## 4. FIRST AID MEASURES

| | |
|---|---|
| Inhalation: | Provide fresh air. Put victim at rest and keep warm. Seek medical attention. |
| Skin Contact: | Possible skin irritation. Contact with molten material can result in burns. Do not attempt to remove molten product, or molten product that has cooled, from skin without medical assistance. After contact with molten product, cool skin area rapidly with cold water. Consult physician. |
| Eye Contact: | Possible eye irritation. Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist in the event of irritation. |
| Ingestion: | Rinse mouth with water. Drink one or two glasses of water. Never give an unconscious person anything through the mouth. Seek medical attention. |

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| Suitable Extinguishing Media: | Water fog, foam, extinguishing powder, carbon dioxide ($CO_2$). |
| Specific Fire Hazards: | Toxic and irritating gases/fumes (hydrogen cyanide, carbon monoxide and $CO_2$) may be given off during burning or thermal decomposition. In case of dust (fine dust), there is the danger of dust explosion. |
| Special Protective Equipment & Precaution for Fire Fighters: | Wear a self-contained breathing apparatus and chemical protective clothing. |

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precaution: Provide adequate ventilation. Wear personal protection equipment. Do not breathe dust.

Environmental Precaution: Do not allow to penetrate into soil, waterbodies or drains.

Methods for Cleaning Up: Avoid generation of dust. Remove all sources of ignition. Sweep or scoop up into closed containers for disposal.

## 7. HANDLING AND STORAGE

Max. Storage Temperature: 180°F (82°C)

Handling: Ensure appropriate exhaust and ventilation at machinery and at places where dust can be generated. Avoid dust formation, and accumulation of static charges. Prohibit sources of spark and ignition, such as smoking.

Storage: Store in a well-ventilated place. Keep container tightly closed. Protect against heat/sun rays. Protect from moisture contamination.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

| | OSHA | | ACGIH | |
|---|---|---|---|---|
| | PEL | STEL | TLV | STEL |
| 1. Styrene | 100 ppm | 200 ppm(c) | 20 ppm | 40 ppm |

Ventilation Measures: Provide good ventilation and/or an exhaust system in the work area.

Respiratory Protection: Respiratory protection must be worn whenever the exposure thresholds have been exceeded. Use filter according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

Hand Protection: Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Eye Protection: Safety glasses with side shields (ANSI Z87.1 equivalent).

Skin & Body Protection: Wear suitable protective clothing and boots.

Other Protective Measures: Avoid contact of molten material with skin. Do not inhale dust particles or vapors. Keep away from sources of ignition. Wash hands before breaks and after work.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical State: | Solid sheets |
| Color: | Translucent (whitish) |
| Odor: | Slight, sweet, aromatic |
| pH: | Not applicable |
| Melting Point: | > 212°F (> 100°C) |
| Boiling Point: | Not available |
| Decomposition Temperature: | 500°F (260°C) approx. |

| | |
|---|---|
| Flash Point: | > 752°F (> 400°C) |
| Auto-ignition Temperature: | 923 - 950°F (495 - 510°C) |
| Explosion Limits: | Not applicable |
| Evaporation Rate: | Not applicable |
| Vapor Pressure: | Not applicable |
| Vapor Density: | Not applicable |
| Relative Density: | 1.05 approx. |
| Solubility: | Insoluble |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | Stable. Hazardous polymerization does not occur. |
| Conditions to Avoid: | Protect from excessive heat. Keep away from sources of ignition and heat. Avoid dust formation. |
| Materials to Avoid: | Strong oxidizing agents |
| Hazardous Decomposition Products: | Thermal decomposition or combustion may emit vapors, carbon monoxide, or carbon dioxide. |

## 11. TOXICOLOGICAL INFORMATION

This product should not be harmful under normal conditions of use.

| | |
|---|---|
| Inhalation: | Unlikely to be harmful by inhalation under ambient temperature. At high temperature, products of thermal decomposition can be irritating to the respiratory system. |
| Skin Contact: | Not a skin sensitizer, and is non-irritating to skin under ambient temperature. At high temperature, contact with the product can cause serious burns. |
| Ingestion: | Unlikely to be harmful by ingestion under ambient temperature. |
| Eye Contact: | This product in the form of dust can be irritating to the eyes. At high temperature, products of thermal decomposition can be irritating to the eyes. |
| Carcinogenity: | Non-carcinogenic |

## 12. ECOLOGICAL INFORMATION

This product is a solid, inert product with low volatility, and is essentially insoluble in water.

| | |
|---|---|
| Ecotoxicity: | This product should have low toxicity to aquatic and terrestrial organisms. |
| Mobility: | Due to the solid nature of this product, it should have low mobility in soil. |
| Persistence & Degradability: | This product is non-biodegradable. |
| Bioaccumulation: | This solid product has a low potential for bioaccumulation. |

**PLASKOLITE, LLC.**

**SAFETY DATA SHEET**
**ABS Sheet**

Effect in Sewage Plants: May be separated mechanically.

## 13. DISPOSAL CONSIDERATIONS

Waste disposal should be in accordance with all federal, state and local environmental laws and regulations.

## 14. TRANSPORT INFORMATION

Not subject to national and international regulations on the transport of dangerous goods.

## 15. REGULATORY INFORMATION

OSHA Hazard Communication: Non-hazardous

Toxic Substances Control Act: Listed

CERCLA Hazardous Substances (40 CFR 302): None

SARA Section 311/312: Non-hazardous

SARA Section 313 Toxic Chemicals (40 CFR 372.65): None

RCRA Hazardous Wastes (40 CFR 261): When this product becomes a waste, it is identified as a solid but NOT hazardous waste under RCRA criteria (40 CFR Part 261).

California Proposition 65: ⚠ **WARNING:** This product can expose you to chemicals including Styrene, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

California Proposition 65 Safe Harbor Level(s):
No Significant Risk Level (NSRL) for Styrene = 27 ug/day

## 16. OTHER INFORMATION

SDS Prepared By: Plaskolite Environmental, Health & Safety
SDS Original Date of Preparation: May 29, 2013
SDS Revision Date: August 21, 2018

The information presented herein is believed to be factual and reliable. It is offered in good faith, but without guarantee, since conditions and methods for the use of our products are beyond our control. We recommend that the prospective user determine the suitability of our products and these suggestions before adopting them on a commercial scale.

# MATERIAL SAFETY DATA SHEET

**12293**
**03 00**

**DATE OF PREPARATION**
Sep 6, 2008

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
12293
**PRODUCT NAME**
ACE® Pure Silicone Lubricant
**MANUFACTURER'S NAME**
Mfd. for:
ACE HARDWARE COPORATION
Oak Brook, IL 60521

**Telephone Numbers and Websites**

| | |
|---|---|
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **15** | **74-98-6** | **Propane** | | |
| | | ACGIH TLV | 2500 PPM | 760 mm |
| | | OSHA PEL | 1000 PPM | |
| **24** | **110-54-3** | **Hexane** | | |
| | | ACGIH TLV | 50 PPM | 127 mm |
| | | OSHA PEL | 50 PPM | |
| **11** | **107-83-5** | **2-Methylpentane** | | |
| | | ACGIH TLV | Not Available | 211 mm |
| | | OSHA PEL | Not Available | |
| **4** | **96-14-0** | **3-Methylpentane** | | |
| | | ACGIH TLV | 500 PPM | 211 mm |
| | | OSHA PEL | Not Available | |
| **3** | **79-29-8** | **2,3-Dimethylbutane** | | |
| | | ACGIH TLV | Not Available | 230 mm |
| | | OSHA PEL | Not Available | |
| **1** | **75-83-2** | **2,2-Dimethylbutane** | | |
| | | ACGIH TLV | Not Available | 317 mm |
| | | OSHA PEL | Not Available | |
| **1** | **110-82-7** | **Cyclohexane** | | |
| | | ACGIH TLV | 100 PPM | 100 mm |
| | | OSHA PEL | 300 PPM | |
| **35** | **67-64-1** | **Acetone** | | |
| | | ACGIH TLV | 500 PPM | 180 mm |
| | | ACGIH TLV | 750 PPM STEL | |
| | | OSHA PEL | 1000 PPM | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2* |
| **Flammability** | 4 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

None generally recognized.

**CANCER INFORMATION**

For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | EXTINGUISHING MEDIA |
|---|---|---|---|
| Propellant < 0° F | 1.0 | 12.8 | Carbon Dioxide, Dry Chemical, Foam |

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

- Remove all sources of ignition. Ventilate the area.
- Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Available

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

**PROTECTIVE GLOVES**

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 5.71 lb/gal | 684 g/l |
| **SPECIFIC GRAVITY** | 0.69 | |
| **BOILING POINT** | <0 - 179° F | <-18 - 81° C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 96% | |
| **EVAPORATION RATE** | Faster than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | N.A. | |
| **pH** | 7.0 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

Volatile Weight 60.00% Less Water and Federally Exempt Solvents

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| **74-98-6** | **Propane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **110-54-3** | **Hexane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 28700 mg/kg |
| **107-83-5** | **2-Methylpentane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **96-14-0** | **3-Methylpentane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **79-29-8** | **2,3-Dimethylbutane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **75-83-2** | **2,2-Dimethylbutane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **110-82-7** | **Cyclohexane** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **67-64-1** | **Acetone** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 5800 mg/kg |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

**US Ground (DOT)**

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

**Canada (TDG)**

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

**IMO**

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 110-54-3 | Hexane | 24 | |
| 110-82-7 | Cyclohexane | 1 | |

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# MATERIAL SAFETY DATA SHEET



## SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Material Identity**

Product Name: Acetone
Product Numbers: 100581 and 100582
Product Use: Ketone Solvent

**Company**

Fibre Glass-Evercoat
a Division of Illinois Tool Works Inc.
6600 Cornell Road
Cincinnati, Ohio USA
Phone: 513-489-7600

**Emergency Telephone Numbers:**

CHEMTREC: 1-800-424-9300
CANUTEC: 1-613-996-6666

Prepared By: Safety Department

## SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient(s) | CAS Number | EINECS Number | % (by weight) |
|---|---|---|---|
| Acetone | 67-64-1 | 200-662-2 | 100 |

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

## SECTION 3. HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****

WARNING! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPORS MAY CAUSE FLASH FIRE. CAUSES EYE, SKIN, NOSE AND THROAT IRRITATION.

**Potential Health Effects**

**Acute Effects (Short Term):**

**Eye:** Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.

**Skin:** May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

**Swallowing:** Ingestion of this material may cause gastrointestinal irritation, nausea, diarrhea, and vomiting. Aspiration of this material into the lungs due to vomiting may produce chemical pneumonitis which can be fatal. May also cause effects on the liver and kidneys.

**Inhalation:** Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache, and dizziness. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

**Chronic Effects of Overexposure (Long Term):**

**Acetone:** Overexposure to this material may have effects on the blood and bone marrow.

**Cancer Information:** This product does not contain any substance, which is listed as a carcinogen by NTP, IARC or OSHA in quantities greater than 0.1%.

**Other Health Effects:** NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

**Primary Route(s) of Entry:** Inhalation, Skin contact, Eye contact, Ingestion, Skin absorption.

## SECTION 4. FIRST AID MEASURES

**Eyes:** Flush eyes gently with water for at least 15 minutes. Seek immediate medical attention.

**Skin:** Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Swallowing**: Consult a physician or poison control center immediately. DO NOT INDUCE VOMITING. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If possible, do not leave individual unattended.

**Inhalation:** If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, oxygen may be benificial if administered by trained personnel.

## SECTION 5. FIRE FIGHTING MEASURES

**Flash Point:** 1.4 ºF (-17 ºC)
**Explosive Limit:** **Lower:** 2.6% **Upper:** 12.8%
**Autoignition Temperature:** 869.0 ºF (465.0 ºC)
**OSHA Flammability Class:** Flammable Liquid – Class IB

**Hazardous Products of Combustion:** May form toxic and corrosive gases: carbon dioxide, carbon monoxide and various hydrocarbons.

**Fire and Explosion Hazards:** Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

**Extinguishing Media:** Regular foam, carbon dioxide, dry chemical.

**Fire Fighting Instructions:** Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus NIOSH approved with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

**NFPA Rating:** Health - 1, Flammability - 3, Reactivity - 0

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**In Case of Spill:** Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Ventilate the area. Wear proper protective equipment (Section 8). Avoid breathing vapors. Collect with an inert absorbant and dispose of properly.

## SECTION 7. HANDLING AND STORAGE

**Handling:** All hazard precautions given in the data sheet must be observed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Do not breathe vapors or spray mist. Do not take internally. Close container after each use. **Keep out of reach of children.**

**Storage:** Store material in a cool, well-ventilated area. For maximum product quality, avoid prolonged storage at temperatures above 75°F (25°C). Do not use or store near heat, sparks, or open flame. Keep container tightly closed. Avoid contact with incompatible materials.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye Protection:** Chemical splash goggles in compliance with OSHA regulations are recommended.

**Skin Protection:** Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. A barrier cream may be used for additional skin protection. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

**Respiratory Protection:** Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.

**Engineering Controls:** Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below acceptable limits. Explosion-proof ventilation system is acceptable.

**Exposure Guidelines:**

| Hazardous Ingredients | CAS Number | OSHA PEL/TWA | ACGIH TLV |
|---|---|---|---|
| Acetone | 67-64-1 | 1000 ppm | 500 ppm |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Boiling Point:** | 133 °F/ 56°C | **Vapor Density:** | Heavier than air. |
| **Specific Gravity / Density:** | 0.79/ 6.57 lbs/gal | **Percent Volatiles by weight:** | 100 % |
| **Evaporation Rate:** | Slower than ethyl ether. | **Physical State:** | Liquid |
| **Melting Point:** | -139 °F / -95 °C | **pH:** | Neutral |
| **Odor:** | Sharp, aromatic odor. | **Solubility:** | Soluble in water. |
| **Vapor Pressure:** | 266 mmHg @ 68 °F / 20 °C | **Appearance:** | Clear colorless Liquid |
| **Octanol/Water Partition** | -0.24 log POW | **VOC (material):** | 0 lbs/gal |
| **VHAP Content by weight – as packaged:** | 0% | | |

## SECTION 10. STABILITY AND REACTIVITY

**Hazardous Polymerization:** Product will not undergo hazardous polymerization.
**Hazardous Decomposition:** May form: carbon dioxide, carbon monoxide, various hydrocarbons.
**Chemical Stability:** Stable under normal handling conditions.
**Incompatibility:** Avoid contact in uncontrolled conditions with: hydrogen peroxide and strong oxidizing agents.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity Data:**

| Ingredient | CAS # | $LD_{50}$ Oral-Rat | $LC_{50}$ Inhalation-Rat |
|---|---|---|---|
| Acetone | 67-64-1 | 5,800 mg/kg | 50,100 mg/m$^3$/8H |

**Carcinogenicity:** See Cancer Information, Section 3.
**Mutagenicity:** No significant evidence found.
**Teratogenicity:** No significant risk of birth defects or reproductive toxicity to humans.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** This product should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.

## SECTION 13. DISPOSAL CONSIDERATION

**RCRA Hazardous Waste:** This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261). Dispose of in accordance with applicable federal, state, and local regulations.

**RCRA Hazard Class:** This material would be regulated as EPA Hazardous Waste Number D001 based on the characteristic of ignitablity and U002 for acetone.

## SECTION 14. TRANSPORT INFORMATION

**DOT Description:** The DOT Classification for shipping is dependant on quantity, type of packaging (a kit may include other components), or method of shipment.

## SECTION 15. REGULATORY INFORMATION

**US Federal Regulations**

**TSCA (Toxic Substances Control Act) Status**
TSCA (USA) The intentional ingredients of this product are listed.
**CERCLA RQ - 40 CFR 302.4(a)**

| Component | RQ (lbs.) |
|---|---|
| Acetone | 5000 |

**SARA Title III: Section 302**- Extremely Hazardous Substances
None
**SARA Title III: Section 313-** Toxic Chemical List

| Component | CAS Number | Percentage |
|---|---|---|
| None | | |

**International Regulations**

**EINECS (Europe)** The intentional ingredients of this product are listed.

**DSL (Canada)** The intentional ingredients of this product are listed.

**WHMIS Classification**

**Health Hazard:** D2B (Other Toxic Effects)

**Physical Hazard:** B2 (Flammable)

**State and Local Regulations**

**California Proposition 65:**

This product contains the following chemical(s) known to the state of California to cause cancer. NONE

This product contains the following chemical(s) known to the state of California to cause birth defects or reproductive harm. NONE

## SECTION 16. OTHER INFORMATION

**HMIS Rating:** Health – 1*, Flammability - 3, Reactivity - 0
Key- 0=Least, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme, *=Chronic Effects

Additional Information may be obtained by calling the Evercoat MSDS Hotline at 1-800-729-7600.

**NOTICE:** The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances.

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Material name** | **1650 ACRY-PLEX INTERIOR SEMI-GLOSS ENAMEL 555 NEUTRAL BASE** |
| **Version #** | 03 |
| **Issue date** | 02-16-2012 |
| **Revision date** | 06-04-2012 |
| **Supersedes date** | 06-04-2012 |
| **CAS #** | Mixture |
| **Product code** | 1650-555 |
| **Product use** | Paint. |
| **Manufacturer/Supplier** | Kelly-Moore Paint Co., Inc. |
| **Address** | 987 Commercial St., San Carlos, CA 94070 |
| **E-mail:** | rstetson@kellymoore.com |
| **Telephone number:** | 1-800-874-4436 |
| **E-mail** | Not available. |
| **Contact person** | Not available. |
| **Emergency Telephone Number:** | CHEMTREC: 1-800-424-9300 |

## 2. Hazards Identification

| | |
|---|---|
| **Physical state** | Liquid. |
| **Appearance** | Milky white to colored liquid. |
| **Emergency overview** | CAUTION<br><br>Prolonged or repeated contact may dry skin and cause irritation. |
| **OSHA regulatory status** | This product is hazardous according to OSHA 29 CFR 1910.1200. |
| **Potential health effects** | |
| **Routes of exposure** | Inhalation. Skin contact. |
| **Eyes** | Direct contact with eyes may cause temporary irritation. |
| **Skin** | Prolonged or repeated contact may dry skin and cause irritation. |
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Ingestion** | Ingestion may cause irritation and malaise. |
| **Target organs** | Central nervous system. Skin. |
| **Chronic effects** | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain. |
| **Signs and symptoms** | Defatting of the skin. Vapors may cause drowsiness and dizziness. |
| **Potential environmental effects** | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|---|---|---|
| Titanium dioxide | 13463-67-7 | <0.1 |

**Composition comments** Components not listed are either non-hazardous or are below reportable limits. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

| | |
|---|---|
| **Skin contact** | Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. Get medical attention if irritation persists after washing. |
| **Inhalation** | Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention if any discomfort continues. |
| **Ingestion** | Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions. |
| **Notes to physician** | Treat symptomatically. |
| **General advice** | If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire Fighting Measures

| | |
|---|---|
| **Flammable properties** | The product is not flammable. |
| **Extinguishing media** | |
| **Suitable extinguishing media** | Extinguish with foam, carbon dioxide, dry powder or water fog. |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Protection of firefighters** | |
| **Protective equipment and precautions for firefighters** | Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| **Fire fighting equipment/instructions** | Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. |

## 6. Accidental Release Measures

| | |
|---|---|
| **Personal precautions** | Avoid inhalation of vapors and contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8). |
| **Environmental precautions** | Prevent further leakage or spillage if safe to do so. Do not contaminate water. |
| **Methods for containment** | Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas. |
| **Methods for cleaning up** | Should not be released into the environment.<br><br>Large Spills: Absorb in vermiculite, dry sand or earth and place into containers.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.<br><br>Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS. |

## 7. Handling and Storage

| | |
|---|---|
| **Handling** | Provide adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. Wear appropriate personal protective equipment. Wash thoroughly after handling. Observe good industrial hygiene practices. |
| **Storage** | Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials. |

## 8. Exposure Controls / Personal Protection

| | |
|---|---|
| **Engineering controls** | Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. |
| **Personal protective equipment** | |
| **Eye / face protection** | Use safety glasses, goggles, or face shield to protect eyes. |
| **Skin protection** | Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | Use NIOSH certified, air purifying respirators with N-, P-, or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. protection provided by air-purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134. Consult a qualified industrial hygienist or Safety Professional for respirator selection guidance. |

| | |
|---|---|
| **General hygiene considerations** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical & Chemical Properties

| | |
|---|---|
| **Appearance** | Milky white to colored liquid. |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Various. |
| **Odor** | Slightly ammoniacal. |
| **Odor threshold** | Not available. |
| **pH** | 7 - 10 |
| **Vapor pressure** | Not available. |
| **Vapor density** | > 1 (Air=1) |
| **Boiling point** | Not available. |
| **Melting point/Freezing point** | Not available. |
| **Solubility (water)** | Moderately soluble |
| **Specific gravity** | Not available. |
| **Flash point** | Not available. |
| **Flammability limits in air, upper, % by volume** | Not available. |
| **Flammability limits in air, lower, % by volume** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Evaporation rate** | < 1 (n-BuAc=1) |

## 10. Chemical Stability & Reactivity Information

| | |
|---|---|
| **Chemical stability** | Material is stable under normal conditions. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. Strong acids. |
| **Hazardous decomposition products** | Carbon oxides. Silicon oxides. |
| **Possibility of hazardous reactions** | Will not occur. |

## 11. Toxicological Information

| | |
|---|---|
| **Sensitization** | Not a skin sensitizer. |
| **Acute effects** | In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Ingestion may cause irritation and malaise. |
| **Chronic effects** | Prolonged or repeated contact may dry skin and cause dermatitis. Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain. |
| **Carcinogenicity** | Potentially carcinogenic components are typically only present in trace amounts. Due to the form of the product, exposure to the potentially carcinogenic components is not expected. |

**ACGIH Carcinogens**

| | |
|---|---|
| Crystalline silica (CAS 14808-60-7) | A2 Suspected human carcinogen. |
| Titanium dioxide (CAS 13463-67-7) | A4 Not classifiable as a human carcinogen. |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| Crystalline silica (CAS 14808-60-7) | 1 Carcinogenic to humans. |
| Titanium dioxide (CAS 13463-67-7) | 2B Possibly carcinogenic to humans. |

**US NTP Report on Carcinogens: Known carcinogen**

| | |
|---|---|
| Crystalline silica (CAS 14808-60-7) | Known To Be Human Carcinogen. |

| | |
|---|---|
| **Further information** | Components of the product may be absorbed into the body through the skin. |

## 12. Ecological Information

| | |
|---|---|
| **Ecotoxicity** | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| **Environmental effects** | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. |
| **Persistence and degradability** | No data is available on the degradability of this product. |
| **Bioaccumulation / Accumulation** | No data available. |
| **Mobility in environmental media** | The product is miscible with water. May spread in water systems. |

## 13. Disposal Considerations

| | |
|---|---|
| **Waste codes** | Not regulated. |
| **Disposal instructions** | Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations. |
| **Waste from residues / unused products** | Dispose in accordance with applicable federal, state, and local regulations. |
| **Contaminated packaging** | Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

## 14. Transport Information

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA (Superfund) reportable quantity**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

| | |
|---|---|
| **Hazard categories** | Immediate Hazard - No<br>Delayed Hazard - Yes<br>Fire Hazard - No<br>Pressure Hazard - No<br>Reactivity Hazard - No |
| **Section 302 extremely hazardous substance (40 CRF 355, Appendix A)** | No |
| **Section 311/312 (40 CFR 370)** | No |

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

**State regulations** WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Crystalline silica (CAS 14808-60-7) Listed: October 1, 1988 Carcinogenic.

**US - New Jersey RTK - Substances: Listed substance**

Crystalline silica (CAS 14808-60-7) Listed.
Titanium dioxide (CAS 13463-67-7) Listed.

**US. Massachusetts RTK - Substance List**

Crystalline silica (CAS 14808-60-7) Listed.
Titanium dioxide (CAS 13463-67-7) Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

Crystalline silica (CAS 14808-60-7) Listed.
Titanium dioxide (CAS 13463-67-7) Listed.

## 16. Other Information

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings**
Health: 1*
Flammability: 1
Physical hazard: 0

**NFPA ratings**
Health: 0
Flammability: 1
Instability: 0

**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available.

RED DEVIL PAINTS AND CHEMICALS -- ACRYLIC LATEX GLOSS ENAMEL #263 DUBLIN GREEN -- 8010-00F022229

```
==========  Product Identification  ==========

Product ID:ACRYLIC LATEX GLOSS ENAMEL #263 DUBLIN GREEN
MSDS Date:10/01/1989
FSC:8010
NIIN:00F022229
MSDS Number: BNDXM
=== Responsible Party ===
Company Name:RED DEVIL PAINTS AND CHEMICALS
Address:30 NORTH WEST STREET
City:MOUNT VERNON
State:NY
ZIP:10550
Country:US
Info Phone Num:(914) 699-3311
Emergency Phone Num:(914) 699-3311
CAGE:REDDE
=== Contractor Identification ===
Company Name:RED DEVIL PAINTS & CHEMICALS
Address:30 NORTH WEST STREET
City:MOUNT VERNON
State:NY
ZIP:10550
Phone:(914) 699-3311
CAGE:REDDE

==========  Composition/Information on Ingredients  ==========

Ingred Name:ACRYLATE POLYMER, POLYACRYLATE, CARBOMER 941, POLYACRYLIC
    ACID, ACRYLIC RESIN, ACRYLIC OLIGOMER (EMULSION)
CAS:9003-01-4
RTECS #:AT4680000
Fraction by Wt: <24.5%

Ingred Name:POLYVINYL ACETATE, VINYL ACETATE POLYMER
CAS:9003-20-7
RTECS #:AK0920000
Fraction by Wt: <24.5%

Ingred Name:RESIDUAL MONOMER
Fraction by Wt: 0.06%

Ingred Name:AMMONIA, AMMONIUM HYDROXIDE-ANHYDROUS, ANHYDROUS AMMONIA
CAS:7664-41-7
RTECS #:BO0875000
Fraction by Wt: 0.15%
Other REC Limits:25 PPM
OSHA PEL:50 PPM
ACGIH TLV:25 PPM/35 STEL; 9293
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:WATER
CAS:7732-18-5
RTECS #:ZC0110000
Fraction by Wt: 61.6%

==========  Hazards Identification  ==========

Routes of Entry: Inhalation:YES  Skin:YES  Ingestion:NO
Reports of Carcinogenicity:NTP:NO    IARC:NO OSHA:NO
Health Hazards Acute and Chronic:INHALATION: IRRITATION OF THE MUCOUS
    MEMBRANES OF THE NOSE, THROAT/RESPIRATORY TRACT & SYMPTOMS OF
    HEADACHE & NAUSEA. SKIN/EYES: IRRITATION.
Explanation of Carcinogenicity:NONE
```

Effects of Overexposure:INHALATION: IRRITATION OF THE MUCOUS MEMBRANES OF THE NOSE, THROAT/RESPIRATORY TRACT & SYMPTOMS OF HEADACHE & NAUSEA. SKIN/EYES: IRRITATION.

========== First Aid Measures ==========

First Aid:INHALATION: REMOVE TO FRESH AIR. EYES: WASH W/WATER FOR 15 MIN. SKIN: WASH W/SOAP & WATER. INGESTION: IF CONSCIOUS GIVE 2 GLASSES OF WATER. DON'T GIVE ANYTHING TO AN UNCONSCIOUS PERSON. OBTAIN MEDICAL ATTENTION IN ALL CASES.

========== Fire Fighting Measures ==========

Flash Point:NON-COMBUSTIBLE
Unusual Fire/Explosion Hazard:MAY SPATTER IF TEMPERATURE EXCEEDS BOILING POINT

========== Accidental Release Measures ==========

Spill Release Procedures:EVACUATE AREA. DIKE & CONTAIN SPILL W/INERT MATERIAL SUCH AS SAND & EARTH. TRANSFER LIQUID TO CONTAINERS FOR RECOVERY DISPOSAL & SOLID DIKING MATERIAL TO SEPARATE CONTAINERS FOR DISPOSAL.

========== Handling and Storage ==========

Handling and Storage Precautions:KEEP FROM FREEZING--PRODUCT MAY COAGULATE.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:NONE REQUIRED IF WELL VENTILATED.
Ventilation:LOCAL EXHAUST
Protective Gloves:IMPERVIOUS
Eye Protection:GOGGLES
Work Hygienic Practices:IF DRENCHED, REMOVE & WASH CLOTHING
Supplemental Safety and Health

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:212F
Melt/Freeze Pt:M.P/F.P Text:32F
Vapor Pres:17 MM HG
Vapor Density:>1
Spec Gravity:1.07
pH:9-10
Evaporation Rate & Reference:<1
Solubility in Water:DILUTABLE
Appearance and Odor:GREEN - SLIGHT AMMONIACAL ODOR
Percent Volatiles by Volume:61.6%

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES

========== Disposal Considerations ==========

Waste Disposal Methods:TO COAGULATE THE EMULSION FERRIC CHLORIDE & LIME. REMOVE THE CLEAR SUPERNATANT LIQUID & FLUSH TO A CHEMICAL SEWER. LANDFILL/INCINERATE THE SOLIDS/CONTAMINATED DIKING MATERIAL ACCORDING TO LOCAL, STATE , & FEDERAL REGULATIONS.

particular situation.

# ÆGIS ENVIRONMENTS
# MATERIAL SAFETY DATA SHEET

## ÆGIS Microbe Shield™ Program — ÆGIS™ Antimicrobial
## (Typical Applied Material)

**Note:** This Material Safety Data Sheet has been prepared to provide information on the typical material remaining on a surface which has been treated with ÆGIS Antimicrobial. Antimicrobial is only sold as a concentrate in solvent. For application, ÆGIS Antimicrobial is diluted with water. The hydrolyzed material in the dilute solution then covalently or ionically bonds with the target surface and covalently bonds with itself to form a durable copolymer. Any CAS Numbers shown below are for the "as supplied" form of the antimicrobial. No CAS Numbers have been assigned for the intermediate hydrolyzed form or the resulting copolymer, neither of which are articles of commerce.

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY INFORMATION

ÆGIS Environments
2205 Ridgewood Drive
Midland, MI 48642-5884

Telephone: (989) 832-8180
Fax: (989) 832-7572

MSDS No. 64881-3 Current Version: 09/21/04

| | | | |
|---|---|---|---|
| Generic Description: | Organosilane polymer | | |
| Physical Form: | Solid | | |
| Color: | Colorless | | |
| Odor: | None | | |
| NFPA Profile: | Health 1 | Flammability 0 | Reactivity 0 |

NFPA = National Fire Protection Association

### SECTION 2 — OSHA HAZARDOUS COMPONENTS

| CAS Number | Wt.% | Component | Exposure Limits |
|---|---|---|---|
| 027668526 | 84% | (Octadecylaminodimethyltrihydroxy-silylpropyl Ammonium Chloride)$_x$ | Copolymer — None |
| 002530872 | 16% | (Chloropropyltrihydroxysilane)$_x$ | Copolymer — None |

### SECTION 3 — EFFECTS OF OVEREXPOSURE

**Acute Effects**

| | |
|---|---|
| Eye: | No untoward effects. |
| Skin: | No untoward effects. |
| Inhalation: | Not Applicable. |
| Oral: | No untoward effects. $LD_{50}$ = 12.27 gm/kg (Albino Rats) |

**Prolonged/Repeated Exposure Effects**

| | |
|---|---|
| Skin: | No untoward effects. |
| Inhalation: | No untoward effects. |
| Oral: | No untoward effects. |

**Signs and Symptoms of Overexposure**

No known applicable information.

**ÆGIS ENVIRONMENTS**
**MATERIAL SAFETY DATA SHEETS**

## SECTION 3 Cont'd— EFFECTS OF OVEREXPOSURE

**Medical Conditions Aggravated by Exposure**

No known applicable information

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for detailed toxicology information.

## SECTION 4 — FIRST AID MEASURES

| | |
|---|---|
| Eye: | No effects expected from treated materials. |
| Skin: | No effects expected from treated materials. |
| Inhalation: | Not Applicable. |
| Oral: | No effects expected from treated materials. |
| Comments: | Any unsuspected and unexplained irritations or reactions in the presence of treated substances should be brought to the attention of a physician. |

## SECTION 5 — FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point (closed cup):** | None |
| **Autoignition Temperature:** | Not Applicable |
| **Extinguishing Media:** | Not Applicable |
| **Fire Fighting Procedures:** | Not Applicable |
| **Unusual Fire Hazards:** | None |

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds; Nitrogen oxides; Chlorine compounds; Silicon dioxide; Formaldehyde.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

Not Applicable

## SECTION 7 — HANDLING AND STORAGE

Not Applicable

## SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Not Applicable

**ÆGIS ENVIRONMENTS**
**MATERIAL SAFETY DATA SHEETS**

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical Form: | Liquid |
| Color: | Colorless to pale yellow |
| Odor: | None |
| Specific Gravity @ 25C: | Not Applicable |
| Viscosity: | Not Applicable |
| Freezing/Melting Point: | Not Applicable |
| Boiling Point: | Not Applicable |
| Vapor Pressure @25C: | None |
| Vapor Density: | Not Applicable |
| Solubility in Water: | None |
| pH: | Not Applicable |
| Volatile content: | 0.0% |

Note: The above information is not intended for use in preparing product specifications. Contact ÆGIS before writing specifications.

## SECTION 10 — STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical Stability:** | Stable |
| **Hazardous Polymerization:** | Hazardous polymerization will not occur |
| **Conditions to Avoid:** | None |
| **Materials to Avoid:** | Oxidizing Materials |
| **Comments:** | None |

## SECTION 11 — TOXICOLOGICAL INFORMATION

**Acute Toxicology Data for Product:** Complete information is not yet available

## SECTION 12 — ECOLOGICAL INFORMATION

**Environmental Fate and Distribution:** No specific information is available

**Ecotoxicity:** No specific information is available

**Persistence and Degradation:** No specific information is available

**Ecotoxicity Classification Criteria**

| Hazard Parameters (LC50 or EC50) | High | Medium | Low |
|---|---|---|---|
| Acute Aquatic Toxicity (mg/L) | <=1 | >1 and <=100 | >100 |
| Acute Terrestrial Toxicity (mg/kg) | <-100 | >100 and <= 2000 | >2000 |

This table is adapted form “Environmental Toxicology and Risk Assessment”, ATMA STP 1179, p. 34, 1993

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

**ÆGIS ENVIRONMENTS**
**MATERIAL SAFETY DATA SHEETS**

## SECTION 13 — DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

Federal Hazardous Waste Code: No Applicable

TCLP: No Applicable

State or local laws may impose additional regulatory requirements regarding disposal.

Call ÆGIS (989) 832-8180, if additional information is required.

## SECTION 14 — TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

| | |
|---|---|
| Proper Shipping Name: | Not Applicable |
| Hazard Technical Name: | Not Applicable |
| Hazard Class: | Not Applicable |
| UN/NA Number: | Not Applicable |
| Packing Group: | Not Applicable |

Call ÆGIS (989) 832-8180, if additional information is required**.**

## SECTION 15 — REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances: None

Section 304 CERCLA Hazardous Substances: None

Section 312 Hazard Class:

| | |
|---|---|
| Acute: | No |
| Chronic: | No |
| Fire: | No |
| Pressure: | No |
| Reactive: | No |

Section 313 Toxic Chemicals: None

**ÆGIS ENVIRONMENTS**
**MATERIAL SAFETY DATA SHEETS**

Supplemental State Compliance Information

| CAS Number | Wt % | Component |
|---|---|---|

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts None

New Jersey

| | |
|---|---|
| 027668526 | 84 Octadecylaminodimethyl trihydroxysilylpropyl ammonium chloride |
| 002530872 | 16 Chloropropyltrihydroxysilane |

Pennsylvania

| | |
|---|---|
| 027668526 | 84 Octadecylaminodimethyl trihydroxysilylpropyl ammonium chloride |
| 002530872 | 16 Chloropropyltrihydroxysilane |

## SECTION 16 — OTHER INFORMATION

Prepared by: ÆGIS Environments.

These data are offered in good faith as typical values and not as product specifications. No warranty, either express or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

COLGATE-PALMOLIVE Company
MATERIAL SAFETY DATA SHEET

# Ajax Oxygen Bleach Cleanser

*This industrial Material Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.*

| Version 1.2 | Revision Date 05/17/2012 | Print Date 01/13/2014 |
|---|---|---|

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** : Ajax Oxygen Bleach Cleanser
**MSDS Number** 200000025181
**CAS-No.** : Not applicable - product is a mixture
**General Use** : A formulated multi-purpose cleaner

**Company** : Colgate-Palmolive Co
300 Park Avenue
New York, NY 10022

**Telephone** :
**Emergency telephone number** : For emergencies involving spill, leak, fire, exposure or accident call CHEMTREC (24hr) at (800) 424-9300 or (703) 527-3887.

**Medical Emergency (24HR):** For MEDICAL EMERGENCIES involving this product call: (888) 489-3861

## SECTION 2. HAZARDS IDENTIFICATION

**Emergency Overview**

**Appearance** : White

**Potential Health Effects**

**Eye contact** : Causes eye irritation on direct contact.

**Skin contact** : May cause skin irritation upon prolonged contact.

**Inhalation** : No adverse effects due to inhalation are expected.

**Ingestion** : May be harmful if swallowed in large quantities.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous components**

OSHA-REGULATED COMPONENTS (present at a concentration of > or = 1%)

| Chemical Name | CAS-No. | Concentration * |
|---|---|---|
| LIMESTONE | 1317-65-3 | 60.00 - 100.00 |
| SODIUM CARBONATE | 497-19-8 | 5.00 - 10.00 |
| SODIUM DODECYL BENZENE SULFONATE | 25155-30-0 | 1.00 - 5.00 |

*All concentrations are present by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Carcinogenicity:**

Listed Carcinogens: The following components, present at a concentration of > or = 0.1%, are listed as carcinogens or potential carcinogens by either the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), OSHA or ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## SECTION 4. FIRST AID MEASURES

**First aid procedures**

| | | |
|---|---|---|
| **Eye contact** | : | Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists. |
| **Skin contact** | : | Flush skin with large amounts of water. If irritation develops and persists, get medical attention. |
| **Inhalation** | : | Remove victim to fresh air. Get medical attention, if symptoms persist. |
| **Ingestion** | : | Drink 8 ounces of clear water. Get medical attention. |

## SECTION 5. FIREFIGHTING MEASURES

**Flammable properties**

| | | |
|---|---|---|
| **Flash point** | : | Remarks: not applicable |

**Fire fighting**

| | | |
|---|---|---|
| **Suitable extinguishing media** | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |

**Protective equipment and precautions for firefighters**

| | | |
|---|---|---|
| **Special protective** | : | Self-contained breathing apparatus and full protective clothing |

**equipment for firefighters** should be worn when fighting chemical fires.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions** : Use personal protection recommended in Section 8 of the MSDS.

**Methods for containment / Methods for cleaning up** : Cover with inert, absorbent material and remove to disposal container. Spill area may be slippery. Flush with plenty of water.

## SECTION 7. HANDLING AND STORAGE

**Storage**

**Requirements for storage areas and containers** : Store at controlled room temperature at 20-25°C (68-77°F).

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

**Components with workplace control parameters**

| Chemical Name | CAS-No. | Value | Exposure Limits | Source | Notes |
|---|---|---|---|---|---|
| LIMESTONE | 1317-65-3 | REL | 10 mg/m3 | NIOSH/GUIDE | Total |
| | | REL | 5 mg/m3 | NIOSH/GUIDE | Respirable. |
| | | PEL | 15 mg/m3 | OSHA_TRANS | Total dust. |
| | | PEL | 5 mg/m3 | OSHA_TRANS | Respirable fraction. |
| | | TWA | 15 mg/m3 | Z1A | Total dust. |
| | | TWA | 5 mg/m3 | Z1A | Respirable fraction. |

**Engineering Controls** : In an industrial work environment, no special precautions or control measures are required.

**Personal protective equipment**

| | | |
|---|---|---|
| **Protective measures** | : | In an industrial work environment, if a splash is likely, chemical goggles may be needed. Prolonged skin contact may require protective goggles. For consumer use, no unusual precautions are necessary. |
| **General Hygiene Considerations** | : | In an industrial work environment, avoid eye and prolonged skin contact. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **Physical state** | : | solid |
| **Appearance** | : | White |
| **Flash point** | : | Note: not applicable |
| **pH** | : | 10.5 |
| **Density** | : | 1.04 g/cm3 |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| **Materials to avoid** | : | Remarks: Strong oxidizing agents |
| **Hazardous decomposition products** | : | Note: None known. |
| **Hazardous reactions** | : | Hazardous polymerisation does not occur. |

## SECTION 11. TOXICOLOGICAL INFORMATION

This product has not been tested as a whole. However, this formula was reviewed by expert toxicologists in the Product Safety Assurance Department of Colgate-Palmolive and is determined to be safe for its intended use. This review has taken into consideration available safety-related information including information on individual ingredients, similar formulas and potential ingredient interactions. This review is a component of the hazard determination used to prepare the statements in Section 3 of the MSDS.

## SECTION 12. ECOLOGICAL INFORMATION

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environment agency for specific rules). Do not dump in sewers, any body of water or on the ground.

## SECTION 14. TRANSPORT INFORMATION

**DOT** : Not regulated.

**TDG** : Not regulated.

**IATA** : Not regulated.

**IMDG** : Not regulated.

## SECTION 15. REGULATORY INFORMATION

**US Regulations**

**SARA**

**Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A)** : SULFUR DIOXIDE

**CERCLA Hazardous Substance List (40 CFR 302.4) - Reportable Quantity** : 58411 lbs

SODIUM DODECYL BENZENE SULFONATE

**Clean Air Act**

**Clean Water Act**

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)** : SODIUM DODECYL BENZENE SULFONATE

**State Regulations**

**Massachusetts Right-To-Know List** : LIMESTONE

SODIUM DODECYL BENZENE SULFONATE

SULFUR DIOXIDE

**New Jersey Right-To-Know List** : SODIUM CARBONATE

LIMESTONE

SODIUM DODECYL BENZENE SULFONATE

**Pennsylvania Right-To-Know List** : SODIUM CARBONATE

LIMESTONE

SODIUM DODECYL BENZENE SULFONATE

**Canada**

**Canadian Workplace Hazardous Materials Information System (WHMIS) Listed Material** : SODIUM CARBONATE

SODIUM DODECYL BENZENE SULFONATE

**Canadian Controlled Products Regulations:** This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**Other Information**

## SECTION 16. OTHER INFORMATION

**Further information**

MSDS Number : 200000025181

COLGATE-PALMOLIVE Company
MATERIAL SAFETY DATA SHEET

# Ajax Oxygen Bleach Cleanser

*This industrial Material Safety Data Sheet is not intended for consumers and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.*

| Version 1.2 | Revision Date 05/17/2012 | Print Date 01/13/2014 |
|---|---|---|

Disclaimer: The information on this sheet is limited to the material identified and is believed by the Colgate-Palmolive Company to be correct based on its knowledge and information as of the date noted. Colgate makes no representation, guarantee or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information and assumes no responsibility for injury, damage or loss resulting from the use of the material.

ASHLAND PETROLEUM CO DIV OF ASHLAND OIL INC -- 034015 ALCOHOL-ETHANOL -- 6810-00-810-1044

========== Product Identification ==========

Product ID:034015 ALCOHOL-ETHANOL
MSDS Date:09/12/1991
FSC:6810
NIIN:00-810-1044
MSDS Number: BQQMV
=== Responsible Party ===
Company Name:ASHLAND PETROLEUM CO DIV OF ASHLAND OIL INC
Address:1409 WINCHESTER AVE
Box:391
City:ASHLAND
State:KY
ZIP:41114
Country:US
Info Phone Num:606-329-3333 / FAX 606-329-3230
Emergency Phone Num:800-274-5263
CAGE:81355
=== Contractor Identification ===
Company Name:ASHLAND INC
Address:1409 WINCHESTER AVE
Box:391
City:ASHLAND
State:KY
ZIP:41114
Country:US
Phone:800-622-6846
CAGE:81355
Company Name:BASEVIEW PETROLEUM INC
Box:265
City:EMERADO
State:ND
ZIP:58228
Country:US
CAGE:5W146
Company Name:VINING OIL CO
Address:301 2D AVE NW
Box:1197
City:JAMESTOWN
State:ND
ZIP:58401-3108
Country:US
Phone:701-252-0890
CAGE:9V533

========== Composition/Information on Ingredients ==========

Ingred Name:ETHYL ALCOHOL (ETHANOL)
CAS:64-17-5
RTECS #:KQ6300000
Fraction by Wt: 95%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1000 PPM
ACGIH TLV:1000 PPM; 9293

Ingred Name:ALIPHATIC PETROLEUM DISTILLATES
Fraction by Wt: 5%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:500 PPM
ACGIH TLV:100 MG/M3

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE: MAY CAUSE IRRITATION OF EYES,

AND MUCOUS MEMBRANES. MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION IF INHALED OR INGESTED. CHRONIC: MAY CAUSE SKIN IRRITATION OR DERMATITIS. MAY CAUSE LIVER DAMAGE.
Explanation of Carcinogenicity:NONE OF THE COMPOUNDS IN THIS PRODUCT IS LISTED BY IARC, NTP, OR OSHA AS A CARCINOGEN.
Effects of Overexposure:INHALATION/INGESTION: DROWSINESS, DIZZINESS, HEADACHE, GIDDINESS, NAUSEA, VOMITING. EYES: REDNESS, TEARING, BLURRED VISION. SKIN: REDNESS, RASH, DRY SKIN.
Medical Cond Aggravated by Exposure:PREEXISTING EYE, SKIN, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. FURTHER IMPAIRMENT OF LIVER FUNCTION MAY OCCUR IF PREEXISTING LIVER DISORDERS EXIST.

========== First Aid Measures ==========

First Aid:INHALATION: REMOVE TO FRESH AIR. GIVE MOUTH-TO-MOUTH RESUSCITATION IF NOT BREATHING. GET MEDICAL ATTENTION IMMEDIATELY. EYE: IMMEDIATELY FLUSH WITH RUNNING WATER FOR 15 MINUTES WHILE HOLDING EYELID. G ET MEDICAL ATTENTION IMMEDIATELY. SKIN:WASH WITH SOAP & WATER. REMOVE CONTAMINATED CLOTHING. INGESTION: DO NOT INDUCE VOMITING. NOTHING BY MOUTH IF UNCONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

========== Fire Fighting Measures ==========

Flash Point Method:TCC
Flash Point:55.0F,12.8C
Lower Limits:3.3%
Extinguishing Media:USE WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.
Fire Fighting Procedures:WEAR FULL FIRE FIGHTING PROTECTIVE EQUIPMENT AND A FULL FACED SELF CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.
Unusual Fire/Explosion Hazard:COMBUSTION OR HEAT OF FIRE MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS AND VAPORS.

========== Accidental Release Measures ==========

Spill Release Procedures:NOTIFY SAFETY PERSONNEL OF SPILL/LEAK. PROVIDE MAXIMUM EXPLOSION-PROOF VENTILATION. ELIMINATE ALL SOURCES OF IGNITION. WEAR PROTECTIVE EQUIPMENT. CONSIDER WATER DILUTION. ABSORB WITH INERT MATERIAL.
Neutralizing Agent:NOT APPLICABLE.

========== Handling and Storage ==========

Handling and Storage Precautions:PROTECT CONTAINERS FROM PHYSICAL DAMAGE. STORAGE AND USE CONDITIONS MUST BE SUITABLE FOR AN OSHA CLASS IB FLAMMABLE LIQUID.
Other Precautions:MAKE FREQUENT CAREFUL LEAKAGE INSPECTIONS. ISOLATE FROM OXIDEZERS, CHEMICALS CAPABLE OF SPONTANEOUS HEATING, MATERIALS REACTING WITH AIR OR MOISTURE TO LIBERATE HEAT, IGNITION SOURCES AND EXPLOSIVES. KEEP OUT OF DIRECT SUN & AWAY FROM HEAT.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:IF VENTILATION DOES NOT MAINTAIN INHALATION EXPOSURES BELOW PEL(TLV), USE NIOSH/MSHA APPROVED RESPIRATORS. RESPIRATORS SHOULD BE SELECTED BASED ON THE FORM AND CONCENTRATION OF CONTAMINANT IN AIR & IN ACCORDANCE WITH OSHA (29 CFR 1910.134).
Ventilation:USE BOTH GENERAL AND LOCAL NONSPARKING, EXPLOSION-PROOF EXHAUST VENTILATION TO MAINTAIN AIRBORNE LEVELS BELOW TLV/PEL.
Protective Gloves:WEAR IMPERVIOUS GLOVES
Eye Protection:SAFETY GLASSES/CHEMICAL SAFETY GOGGLES.
Other Protective Equipment:WEAR RUBBER BOOTS, APRONS, AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT SUITABLE TO THE WORK SITUATION.
Work Hygienic Practices:PRACTICE GOOD PERSONAL HYGIENE. KEEP MATERIAL OFF CLOTHES AND EQUIPMENT. DO NOT SMOKE ANYWHERE NEAR WORK AREA.

Supplemental Safety and Health
NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE
PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

========== Physical/Chemical Properties ==========

HCC:F2
Boiling Pt:B.P. Text:>158F,>70C
Melt/Freeze Pt:M.P/F.P Text:-173F,-114C
Vapor Pres:45 MM HG
Vapor Density:>1 (AIR=1)
Spec Gravity:0.79 (WATER=1)
Evaporation Rate & Reference:6.8 (ETHYL ETHER=1)
Solubility in Water:COMPLETE
Appearance and Odor:COLORLESS, MOBILE LIQUID
Percent Volatiles by Volume:100

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS
Stability Condition to Avoid:HIGH HEAT, OPEN FLAMES AND OTHER SOURCES
OF IGNITION. DO NOT USE ALUMINUM CONTAINERS FOR STORAGE AT
TEMPERATURES > 120F.
Hazardous Decomposition Products:CARBON MONOXIDE CAN FORM ON INCOMPLETE
COMBUSTION.

========== Disposal Considerations ==========

Waste Disposal Methods:MATERIAL SHOULD BE RECLAIMED, RECYCLED OR
INCINERATED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL
REGULATIONS.

**025**

# MATERIAL SAFETY DATA SHEET

**Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200**

Date of Prep: 03/21/12

## SECTION 1

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090 (847) 541-5700
EMERGENCY TELEPHONE (800) 424-9300

FOR INFORMATION: (847) 541-5700
- SUNNYSIDE CORPORATION
- CHEM TREC

Product Class: Mixed Solvents
Trade Name: ALLPRO LACQUER THINNER

Manufacturer's Code: 457
NPCA HMIS:
Health: 2
Flammability: 3
Reactivity: 1

Product Appearance and Odor: Clear, colorless liquid; mild solvent odor.

## SECTION 2 -- HAZARDOUS INGREDIENTS

### OCCUPATIONAL EXPOSURE LIMITS

| INGREDIENT | CAS # | PERCENT | ACGIH TLV (TWA) | ACGIH TLV (STEL) | OSHA PEL (TWA) | OSHA PEL (STEL) | VAPOR PRESSURE |
|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | | 500 PPM | 750 PPM | 750 PPM | 1000 PPM | 213 MM Hg @ 75$^{O}$ F. |
| Ethyl Acetate | 141-78-6 | | 400 PPM | | 400 PPM | | 86 MM Hg @ 20$^{O}$ C. |
| Methanol | 67-56-1 | | 200 (SKIN) | 250 PPM | 200 PPM (SKIN) | 250 PPM | 96.O MM Hg @ 68$^{O}$ F. |
| Light Aliphatic Solvent Naphtha | 64742-89-8 | | 300 PPM (For VM&P Naphtha - CAS # 8032-32-4) | | 300 PPM | 400 PPM | Approx. 60 MM Hg @ 25° C. |
| Toluene | 108-88-3 | | 20 PPM *(SKIN, A4) | | 100 PPM | 150 PPM | Approx. 54 MM Hg @ 25° C. |
| Xylene | 1330-20-7 | | 100 PPM *(A4) | 150 PPM | 100 PPM | 150 PPM | 7 MM Hg @ 20° C. |
| Ethyl Benzene | 100-41-4 | | 100 PPM | 125 PPM | 100 PPM | 125 PPM | 10 MM Hg @ 20° C. |
| Methyl Ethyl Ketone | 78-93-3 | | 200 PPM | 300 PPM | 200 PPM | 300 PPM | 83 MM Hg @ 75° C. |

*Not classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data.

## SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Move victim away from exposure and into fresh air. Flush eyes with plenty of water for at least 15 minutes while holding eyelids open. In case of irritation from airborne exposure, move to fresh air. Get prompt medical attention.

Skin Contact: Remove contaminated shoes and clothing. Flush skin with water. Follow by washing with soap and water. If irritation or redness develops, get medical attention. Do not reuse clothing until cleaned.

Inhalation: Using proper respiratory protection, immediately remove the affected victim from source of exposure and into fresh air. If respiratory symptoms or other symptoms persist seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Call a physician, hospital emergency room or Poison Control Center immediately. Transport to medical attention immediately. Prompt action is essential.

Emergency Medical Treatment Procedures: This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), liver kidney, central nervous system, pancreas, heart. Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

## SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

| | | | |
|---|---|---|---|
| Boiling Range: | 133° F (IBP) | Vapor Density: | Heavier than air |
| Evaporation Rate: | Slower than ether | % Volatile By Volume: | 100% |
| Weight Per Gallon: | 6.98 lbs. | | |
| Solubility in Water: | Moderate | | |
| VOC: | 6.28 lbs./gal. | | |

## SECTION 5 -- FIRE AND EXPLOSION DATA

| | |
|---|---|
| Flammability Classification: | Flammable liquid - Class IB. |
| Flash Point: | $0^{O}$ F. (Tag.Closed Cup) |
| Autoignition Temperature: | Not determined |
| Lower Explosive Limit: | Not established |
| Extinguishing Media: | Either allow fire to burn under controlled conditions or extinguish with alcohol type foam and dry chemical. Try to cover liquid spills with foam. |
| Unusual Fire and Explosion Hazards: | Extremely flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. |
| Special Fire Fighting Procedures: | Use water spray to cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. |

## SECTION 6 -- HEALTH HAZARD DATA

| | |
|---|---|
| THRESHOLD LIMIT VALUE: | See Section 2. |
| EFFECTS OF OVEREXPOSURE: | |
| Eye Contact: | Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage. |
| Skin Contact: | Skin irritant. Prolonged or repeated skin contact can cause dermatitis, drying, cracking or irritation of the skin. |
| Inhalation: | Breathing high vapor concentrations may result in respiratory tract irritation, central nervous system depression, liver and kidney damage, may cause headaches and dizziness, drowsiness and unconsciousness. Brain cell damage may result from long-term vapor inhalation. |
| Ingestion: | Swallowing as little as one to four ounces of Methanol has been reported to cause death or serious irreversible injury such as blindness in humans. Studies in experimental animals indicate that the metabolism of Methanol to formic acid results in metabolic acidosis and reversible or irreversible damage to the optic nerve. Ingestion of this product, even in small amounts can cause blindness and death. Onset of symptoms may be delayed for 18-24 hours. Treatment prior to onset of obvious symptoms may be lifesaving. Methanol is rapidly absorbed and emesis should be initiated early to be effective, within 30 minutes of ingestion, if possible. Administer syrup of ipecac. After the dose is given, encourage patient to take 6-8 ounces of clear, non carbonated fluid. Dose may be repeated once if emesis does not occur eithin 20-30 minutes. Administration of an aqueous slurry of activated charcoal with magnesium citrate or sorbitol as a cathartic has been reported helpful.<br>Ethanol inhibits the formation of toxic metabolites. Ethanol therapy may prove beneficial. Maintain contact with a poison control center during all aspects of diagnosis and treatment. |
| Carcinogenicity: | There is inadequate data available to evaluate the risk of developing cancer from exposure to the Toluene present in this product. However, none of the solvents in this product are listed as carcinogens or potential carcinogens by the NTP, IARC, or OSHA. |
| Target Organs: | There is a potential hazard (from Toluene) to the central nervous system, kidney, liver and sense of hearing. |
| Developmental: | Potential hazard to the fetus. |
| Chronic Effects: | WARNING: Concentrated, prolonged or deliberate inhalation of this product may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals to Toluene (levels greater than approximately 1500 ppm) has been reported to cause adverse fetal developmental effects. |
| Medical Conditions Aggravated by Exposure: | Conditions aggravated by exposure may include skin disorders, respiratory (asthma-like) conditions, kidney disorders and liver disorders. |

## SECTION 7 -- REACTIVITY DATA

| | |
|---|---|
| Stability: | Stable . |
| Conditions to Avoid: | Heat, sparks, and flame. |
| Incompatibility (Materials to Avoid): | Strong oxidizing agents like liquid chlorine or concentrated oxygen. May be corrosive t o lead and aluminum. |
| Hazardous Decomposition Products: | Thermal decomposition may yield carbon dioxide and carbon monoxide. |
| Hazardous Polymerization: | Will not occur. |

## SECTION 8 -- SPILL OR LEAK PROCEDURES

Steps to be taken in case material is spilled or released: Remove ignition sources, evacuate area, avoid breathing vapors or contact with liquid. Use non-sparking tools and explosion proof equipment. Recover free liquid or stop leak if possible. Dike large spills and use absorbent material for small spills. Keep spilled material out of sewers, ditches and bodies of water. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.

Waste disposal method: Send to a licensed reclaimer or incinerator. Dispose of in accordance with local, state and federal regulations.

## SECTION 9 -- SAFE HANDLING AND USE INFORMATION

| | |
|---|---|
| Respiratory Protection: | Appropriate vapor canister, self-contained breathing apparatus or supplied-air hose mask, if needed. |
| Ventilation: | It is not recommended that this product be used in confined spaces or in a manner that will allow accumulation of high vapor concentrations. However, for controlled industrial uses when this product is used in confined spaces, heated above ambient temperatures or agitated, the use of explosion proof ventilation is necessary to maintain exposure levels below applicable exposure limits - see Section 2. |
| Protective Gloves: | Wear resistant gloves such as nitrile rubber. |
| Eye Protection: | Chemical safety goggles |
| Other Protective Equipment: | Impervious clothing or boots, if needed. |

## SECTION 10 -- SPECIAL PRECAUTIONS

| | |
|---|---|
| Dept. of Labor Storage Category: | Flammable liquid - Class IB. |
| Hygienic Practices: | Keep away from heat, sparks and flame. Keep containers closed when not in use. Avoid eye contact. Avoid prolonged contact with skin. Wash skin with soap and water after contact. |
| Additional Precautions: | Ground containers when transferring liquid to prevent static accumulation and discharge. Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents" (American Petroleum Institute, 1720 L Street Northwest, Washington,DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101). |
| Empty Container Warning: | "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to supplier or disposed of in an environmentally safe manner and in accordance with governmental regulations. |

## SECTION 11 -- ADDITIONAL INFORMATION

This product contains the following toxic chemical(s) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

| TOXIC CHEMICAL | CAS # | APPROXIMATE % BY WEIGHT |
|---|---|---|
| Toluene | 108-88-3 | 12.60% |
| Xylene | 1330-20-7 | 7.11% |
| Methanol | 67-56-1 | 20.62% |
| Ethyl Benzene | 100-41-4 | 1.25% |

| | |
|---|---|
| SARA Title III Hazard Categories: | Immediate (Acute) Health, Delayed (Chronic) Health, Fire. |
| Common Names: | Lacquer reducer, solvent mixture |
| California Proposition 65: | This product contains Toluene, Ethyl Benzene and may contain trace amounts of Benzene which are known to the State of California to cause cancer, birth defects or other reproductive harm and may be subject to the requirements of California Proposition 65. |

TRANSPORTATION* (U.S.D.O.T. land transportation in packages of 119 gallons or less)

| | |
|---|---|
| Proper Shipping Name: | Paint related material |
| Hazard Class: | 3 |
| Packing Group: | II |
| Identification Number: | UN 1263 |
| U.S.D.O.T. Hazardous Substances: | Acetone RQ 5000 lbs.<br>Methanol RQ 1000 lbs.<br>Toluene RQ 1000 lbs.<br>Xylene RQ 1000 lbs.<br>Ethyl Benzene RQ 1000 lbs. |

*Refer to 49 CFR for additional information. Exceptions or exemptions may exist for smaller quantities.

| | |
|---|---|
| Common Name: | ALUMINUM OXIDE RESIN GRINDING WHEEL |
| Manufacturer: | SAINT-GOBAIN ABRASIVES |
| MSDS Revision Date: | 7/10/2009 |
| MSDS Format: | No Format Specified |
| Grainger Item Number(s): | 2D756, 4DDT9, 4DDU1, 4DDU3, 4DDU4, 4DDU5, 4DDU6 |
| Manufacturer Model Number(s): | |

## MSDS Table of Contents

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NORTON

MATERIAL SAFETY DATA SHEET

PART#: 66243510628

DATE PRINTED: MAR 01, 2010

MSDS NO.: ALRESIN006 OUTBOUND

ALUMINUM OXIDE RESIN GRINDING WHEEL

## SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

top

PRODUCT NAME: ALUMINUM OXIDE RESIN GRINDING WHEEL

TRADE NAME: ALUNDUM WHEEL

MANUFACTURER(4):
SAINT-GOBAIN ABRASIVES, INC.
ONE NEW BOND STREET
WORCESTER, MA, 01606
(508) 795-5000

REVISION DATE: 7/10/2009

MSDS PRINT FORMAT: NUSA

## SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

top

| SUBSTANCE DESCRIPTION | PERCENT | CAS# |
|---|---|---|
| ALUMINUM OXIDE, NON-FIBROUS | 50.000-90.000 | 1344-28-1 |
| BARIUM SULFATE | 1.000-25.000 | 7727-43-7 |
| CURED PHENOLFORMALDEHYDE RESIN | 3.000-20.000 | 9003-35-4 |
| FIBERGLASS | 1.000-10.000 | 65997-17-3 |

OTHER: NOT APPLICABLE

## SECTION 3. HAZARDS IDENTIFICATION

top

INHALATION ACUTE EXPOSURE EFFECTS:
DUST MAY BE SLIGHTLY IRRITATING TO EYES AND RESPIRATORY TRACT AT HIGH CONCENTRATIONS.

INHALATION CHRONIC EXPOSURE EFFECTS:

CHRONIC:
MAY AFFECT BREATHING CAPACITY.

FOR PRODUCTS CONTAINING PHENOL/FORMALDEHYDE RESIN, DUST GENERATED FROM INTENDED USE MAY CONTAIN TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE WHICH UNDER EXCESSIVE EXPOSURE MAY CAUSE SKIN SENSITIZATION AND AIRWAY OBSTRUCTION.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES:
EXCESSIVE EXPOSURE TO INORGANIC FLUORIDES HAVE BEEN SHOWN TO INCREASEBONE DENSITY.

EYE CONTACT ACUTE EXPOSURE EFFECTS: DUST MAY IRRITATE EYES.

SKIN CONTACT ACUTE EXPOSURE EFFECTS:
SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.

INGESTION ACUTE EXPOSURE EFFECTS:
NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.

## SECTION 4. FIRST AID MEASURES

top

INHALATION:
REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.

EYE CONTACT:
WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.

INGESTION:
CALL POISON CONTROL CENTER, HOSPITAL EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY.

## SECTION 5. FIRE FIGHTING MEASURES

top

FIRE FIGHTING PROCEDURES: NOT APPLICABLE

HAZARDOUS PRODUCTS/COMBUSTION: NONE.

HAZARD RATING SOURCE:

NFPA:
HEALTH 1
FLAMMABILITY 0
REACTIVITY 0
OTHER

## SECTION 6. ACCIDENTAL RELEASE MEASURES

top

CLEAN-UP: FOLLOW NORMAL CLEAN UP PROCEDURES.

## SECTION 7. HANDLING AND STORAGE

top

HANDLING:

ALWAYS HANDLE AND STORE WHEELS IN A CAREFUL MANNER.

ALWAYS VISUALLY INSPECT ALL WHEELS BEFORE MOUNTING.

ALWAYS CHECK MACHINE SPEED AGAINST THE ESTABLISHED MAXIMUM SAFE OPERATING SPEED MARKED ON THE WHEEL.

ALWAYS CHECK MOUNTING FLANGES FOR EQUAL AND CORRECT DIAMETER.

ALWAYS USE MOUNTING BLOTTERS.

ALWAYS BE SURE WORK REST IS PROPERLY ADJUSTED.

ALWAYS USE A SAFETY GUARD COVERING AT LEAST ONE-HALF OF THE GRINDING WHEEL.

ALWAYS ALLOW NEWLY MOUNTED WHEELS TO RUN AT OPERATING SPEED, WITH GUARD IN PLACE, FOR AT LEAST ONE MINUTE BEFORE GRINDING.

ALWAYS TURN OFF COOLANT BEFORE STOPPING WHEEL TO AVOID CREATING AN OUT-OF-BALANCE WHEEL.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

top

VENTILATION PROTECTION:
RECOMMEND USING LOCAL EXHAUST VENTILATION WHEN GENERAL VENTILATION IS NOT KEEPING THE AIRBORNE CONCENTRATION BELOW THE TLV.

RESPIRATORY PROTECTION:
RESPIRATORS ARE REQUIRED WHEN AIRBORNE CONTAMINANT LEVELS EXCEED THE TLV(S).

EYE PROTECTION:
ALWAYS WEAR SAFETY GLASSES OR SOME TYPE OF EYE PROTECTION WHEN GRINDING.

OTHER PROTECTION:
USE OF THIS PRODUCT MAY CREATE ELEVATED SOUND LEVELS. HEARING PROTECTION SHOULD BE WORN WHERE REQUIRED (SEE OSHA 29 CFR 1910.134 AND OTHER APPLICABLE REGULATIONS).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

top

APPEARANCE & ODOR: SOLID ARTICLE. ODORLESS.

## SECTION 10. STABILITY AND REACTIVITY

top

INCOMPATIBILITIES:
AVOID ACIDS OF ALL TYPES WITH A pH <4.0.

DECOMPOSITION:
IN USE, DUST AND DECOMPOSING ODORS MAY BE GENERATED. IN MOST CASES, THE MATERIAL REMOVED FROM THE WORKPLACE WILL BE SIGNIFICANTLY GREATER THAN THE GRINDING WHEEL COMPONENTS. COOLANTS MAY PRODUCE OTHER DECOMPOSITION PRODUCTS.

FOR PRODUCTS CONTAINING PHENOL AND FORMALDEHYDE RESIN, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF FLUORIDES.

## SECTION 11. TOXICOLOGICAL INFORMATION

top

CARCINOGENICITY: NOT APPLICABLE

LD50/LC50: VALUES ARE NOT APPROPRIATE OR AVAILABLE.

## SECTION 12. ECOLOGICAL INFORMATION

top

CHEMICAL FATE:
RESIN BONDED MATERIALS DEMONSTRATE SIMILAR DEGRADATION RATES AS PHENOLIC PLASTICS.

VITRIFIED PRODUCTS DO NOT APPRECIABLY DECAY.

## SECTION 13. DISPOSAL CONSIDERATIONS

top

WASTE DISPOSAL:
USE STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS.

PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

## SECTION 14. TRANSPORT INFORMATION

top

HAZARD CLASS:
THIS PRODUCT IS NOT HAZARDOUS AS DEFINED BY THE DEPARTMENT OF TRANSPORTATION. (USA)

THIS PRODUCT IS "NOT REGULATED" UNDER THE TRANSPORTATION OF DANGEROUS GOODS ACT. (CAN)

## SECTION 15. REGULATORY INFORMATION

top

EXPOSURE LIMITS/REGULATORY INFORMATION:

| SUBSTANCE DESCRIPTION | UNITS | OSHA | ACGIH | MOL |
|---|---|---|---|---|
| ALUMINUM OXIDE, NON-FIBROUS | MG/M3 | 15.0000 | 10.0000 | 10.0000 |
| BARIUM SULFATE | MG/M3 | 10.0000 | 10.0000 | 10.0000 |
| CURED PHENOLFORMALDEHYDE RESIN | PPM | 0.0000 | 0.0000 | 0.0000 |
| FIBERGLASS | FBR/CC | 1.0000 | 0.0000 | 0.0000 |

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS:

CA PROP 65: NOT APPLICABLE

TSCA:

SECTION 8(B) - INVENTORY STATUS:
ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER THE REGULATIONS OF THE TOXIC SUBSTANCE CONTROL ACT.

DOMESTIC SUBSTANCE LIST:
ALL COMPONENTS OF THIS PRODUCT ARE FOUND ON THE DOMESTIC SUBSTANCE LIST.

## SECTION 16. OTHER INFORMATION

top

DISCLAIMER:

KEY TO ABBREVIATIONS:
EQ=EQUAL
LT=LESS THAN
GT=GREATER THAN
AP=APPROXIMATELY
TR=TRACE
ND=NO DATA AVAILABLE

**XEROX** **Material Safety Data Sheet**

**MSDS No:** D-0429
**Date:** 1/31/86
**Revision:** 3/24/03

**Manufacturer:**
Xerox Corporation
Rochester, New York 14644

**Telephone # (s):** *Safety Information: (800) 828-6571*
*Health Emergency: (585) 422-2177*
*Transportation Information(Chemtrec): (800) 424-9300*

## Section I - Product Identification

**Trade Names/Synonyms:** Anti-Static Fluid, Document Handler Anti-Static Fluid

**Part No.:** 43E30, 43E110, 8R517*, 8R2946, 8R3671, 8R90273*, 8R90275

**Chemical Name:** None

**XCI:** 544P23340

**WHMIS Status:** This is not a WHMIS controlled product.

*Cancelled

| Ingredients (% by wt.) | CAS No. |
|---|---|
| Water (>98%) | 7732-18-5 |
| Additives (<1%) | --- |
| Surfactants (<1%) | --- |

## Section II - Emergency and First Aid

**Primary Route of Entry:**
Inhalation

**Eyes:**
Flush eyes thoroughly with water.

**Skin:**
Wash with soap and water.

**Inhalation:**
Remove from exposure.

**Ingestion:**
Dilute stomach contents with several glasses of water.

**Symptoms of Overexposure:**
May cause minimal irritation of respiratory passages on continuous exposure to high concentrations.

**Medical Conditions Generally Aggravated by Exposure:**
None when used as described by product literature.

**Additional Information:**
None.

## Section III - Toxicology and Health Information

*This material has been evaluated by Xerox Corporation. The toxicity data noted below is based the constituents of this product.*

| | | | |
|---|---|---|---|
| **Oral $LD_{50}$:** | N.A. | **TLV:** | N.E. |
| **Dermal $LD_{50}$:** | N.A. | **PEL:** | N.E. |
| **Inhalation $LC_{50}$:** | N.A. | **STEL:** | N.E. |
| **Eye Irritation:** | Not an irritant. | **Ceiling:** | N.E. |
| **Skin Sensitization:** | Not a sensitizer. | **XEL[1]:** | N.E. |
| **Skin Irritation:** | Not an irritant. | | |
| **Human Patch:** | Non-irritating, non-sensitizing. | | |
| **Mutagenicity:** | No mutagenicity detected in Ames Assay. | | |
| **Carcinogens:** | None present | | |
| **Aquatic $LC_{50}$:** | N.A. | | |

**Additional Information:** None

[1]XEL-Xerox Exposure Limit

**Xerox** **Trade Name:** Anti-Static Fluid, Document Handler Anti-Static Fluid **MSDS No.:** D-0429

**Section IV - Physical Data**

| | | | |
|---|---|---|---|
| **Appearance/Odor:** | White liquid / odorless | **Softening Range:** | N.A. |
| **Boiling Point:** | 101$^{o}$ C | **Melting Point:** | N.A. |
| **Solubility in Water:** | Completely | **Specific Gravity ($H_2O$=1):** | ~1 |
| **Evaporation Rate:** | ~5.1 (n-Butylacetate = 1) | **Vapor Pressure (mm Hg):** | 22 @ 20$^{o}$ C |
| **Vapor Density (Air=1):** | N.A. | **pH:** | 7.2 |
| **Volatile:** | 99.9% (Wt.) --% (Vol.) | **VOC:** | <20 g/l |

**Section V - Fire and Explosion Data**

| | |
|---|---|
| **Flash Point (Method Used):** | N.A. |
| **Flammable Limits:** | LEL: N.A., UEL: N.A. |
| **NFPA 704:** | Health - 0, Fire - 0, Reactivity - 0 |
| **Extinguishing Media:** | N.A. |
| **Special Fire Fighting Procedures:** | None |
| **Fire and Explosion Hazards:** | None |

**Section VI -Reactivity Data**

| | |
|---|---|
| **Stability:** | Stable |
| **Hazardous Polymerization:** | Will Not Occur |
| **Hazardous Decomposition Products:** | None |
| **Incompatibility (Materials to Avoid):** | None |

**Section VII - Special Protection Information**

| | |
|---|---|
| **Respiratory Protection:** | None required when used as intended in Xerox products. |
| **Eye Protection:** | None required when used as intended in Xerox products. |
| **Protective Gloves:** | None required when used as intended in Xerox products. |
| **Other:** | None required when used as intended in Xerox products. |

**Section VIII - Special Precautions**

| | |
|---|---|
| **Handling and Storage:** | Keep in container supplied. Do not store below freezing. |
| **Conditions to Avoid:** | None |

**Section IX- Spill, Leak, and Disposal Procedures**

**For Spills or Leakage:** Mop up or wash to waste.

**Waste Disposal Method:** No specific waste disposal method required. Dispose of in accordance with federal, state, and local regulations.

**Section X - Transportation Information**

| | **Proper Shipping Name:** | **Hazard Class** | **ID #:** | **Packing Group:** | **Exception may apply:** |
|---|---|---|---|---|---|
| D.O.T. | Not regulated | N.A. | N.A. | N.A. | - |
| T.D.G. | Not regulated | N.A. | N.A. | N.A. | |

# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**ARALDITE® 2014 A US**

## Section 1. Identification

**GHS product identifier** : **ARALDITE® 2014 A US**

**Product code** : 00070383

**Other means of identification** : Not available.

**Product type** :

**Material uses** : Epoxy adhesive

**Supplier's details** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**Emergency telephone number (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 1B
AQUATIC TOXICITY (ACUTE) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.6%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 9.1%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
May cause genetic defects.
Toxic to aquatic life with long lasting effects.

## Section 2. Hazards identification

**Precautionary statements** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| Bisphenol A epoxy resin | 30 - 60 | 25068-38-6 |
| barium sulphate, natural | 30 - 60 | 7727-43-7 |
| Butanedioldiglycidyl ether | 1 - 3 | 2425-79-8 |
| triglycidyl isocyanurate | 1 - 3 | 2451-62-9 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

# Section 4. First aid measures

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** :

## Section 5. Fire-fighting measures

Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product

# Section 7. Handling and storage

residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| triglycidyl isocyanurate | **ACGIH TLV (United States, 3/2012).** TWA: 0.05 mg/m³ 8 hours. |

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** :

## Section 8. Exposure controls/personal protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Paste.]

**Color** : Beige.

**Odor** : Slight

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.55

**Solubility in water** : negligible

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

# Section 10. Stability and reactivity

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | - | LC0 Inhalation Vapor | Rat - Male | 0.00001 ppm |
| | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 420 Acute Oral Toxicity - Fixed Dose Method | LD50 Oral | Rat - Female | >2000 mg/kg |
| Butanedioldiglycidyl ether | No official guidelines | LD50 Dermal | Rat - Male, Female | 2150 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1163 mg/kg |
| triglycidyl isocyanurate | OECD 403 Acute Inhalation Toxicity | LC50 Inhalation Dusts and mists | Rat - Male, Female | 1.14 mg/l |
| | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 400 to 800 mg/kg |

### Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Mild irritant |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Mild irritant |
| Butanedioldiglycidyl ether | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Severe irritant |
| triglycidyl isocyanurate | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | EPA OPPTS | Rabbit | Eyes - Severe irritant |

### Conclusion/Summary

**Skin** :
- Bisphenol A epoxy resin: Irritating to skin.
- Butanedioldiglycidyl ether: Based on the human occupational exposure data, this substance is considered as irritating to skin.
- triglycidyl isocyanurate: Non-irritating to the skin.

**Eyes** :
- Bisphenol A epoxy resin: Irritating to eyes.
- Butanedioldiglycidyl ether: Severely irritating to eyes.
- triglycidyl isocyanurate: Severely irritating to eyes.

**Respiratory** :
- Bisphenol A epoxy resin: No additional information.
- Butanedioldiglycidyl ether: No additional information.
- triglycidyl isocyanurate: No additional information.

# Section 11. Toxicological information

## Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Sensitizing |
| Butanedioldiglycidyl ether | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| triglycidyl isocyanurate | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| Bisphenol A epoxy resin | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| Butanedioldiglycidyl ether | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| triglycidyl isocyanurate | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Germ | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Human<br>Cell: Somatic<br>Metabolic activation: +/- | Negative |

**Conclusion/Summary :**

# Section 11. Toxicological information

| | |
|---|---|
| triglycidyl isocyanurate | The weight of the scientific evidence indicates that this material is genotoxic. |

## Carcinogenicity

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Male, Female | 15 mg/kg | 2 years; 7 days per week | Negative - Oral - NOAEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Female | 1 mg/kg | 2 years; 5 days per week | Negative - Dermal - NOEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Mouse - Male | 0.1 mg/kg | 2 years; 3 days per week | Negative - Dermal - NOEL |
| triglycidyl isocyanurate | OECD 451 Carcinogenicity Studies | Rat - Male | 4.36 mg/kg | 99 weeks; 24 hours per day | Negative - Oral - NOAEL |

## Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Negative | Negative | Negative |
| triglycidyl isocyanurate | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Rat - Male | Negative | Negative | Negative |

**Conclusion/Summary :**

| | |
|---|---|
| triglycidyl isocyanurate | No known significant effects or critical hazards. |

## Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 414 Prenatal Developmental Toxicity Study | Rat - Female | Negative - Oral |
| | EPA CFR | Rabbit - Female | Negative - Dermal |
| | OECD 414 Prenatal Developmental Toxicity Study | Rabbit - Female | Negative - Oral |

# Section 11. Toxicological information

**Conclusion/Summary** :

| | |
|---|---|
| triglycidyl isocyanurate | In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted. |

## Specific target organ toxicity (single exposure)

Not available.

## Specific target organ toxicity (repeated exposure)

Not available.

## Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

# Section 11. Toxicological information

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOEL Dermal | Rat - Male, Female | 10 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOAEL Dermal | Mouse - Male | 100 mg/kg |
| Butanedioldiglycidyl ether | OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 200 mg/kg |
| triglycidyl isocyanurate | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 7.32 mg/kg/d |
| | OECD | Sub-acute NOEC Inhalation Dusts and mists | Mouse - Male | <100 mg/m³ |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : May cause genetic defects if swallowed.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

| Route | ATE value |
|---|---|
| Dermal | 56122.4 mg/kg |
| Inhalation (dusts and mists) | 34.17 mg/l |

**Other information** : Not available.

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Bisphenol A epoxy resin | EPA CFR | Acute | EC50 | 72 hours Static | Algae | 9.4 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 1.7 | mg/l |
| | Unknown guidelines | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 1.5 | mg/l |

# Section 12. Ecological information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | OECD 211 *Daphnia Magna* Reproduction Test | Chronic | NOEC | 21 days Semi-static | Daphnia | 0.3 | mg/l |
| Butanedioldiglycidyl ether | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 24 hours Static | Daphnia | 75 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | EL50 | 72 hours Static | Algae | >160 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 24 | mg/l |
| triglycidyl isocyanurate | OECD 201 Alga, Growth Inhibition Test | Acute | EbC50 (biomass) | 72 hours Static | Algae | 29 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | LC50 | 24 hours Static | Daphnia | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | >77 | mg/l |

## Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD Derived from OECD 301F (Biodegradation Test) | 28 days | 5 % |
| Butanedioldiglycidyl ether | OECD 301F Ready Biodegradability - Manometric Respirometry Test | 28 days | 43 % |
| triglycidyl isocyanurate | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 44 days | 0.5 to 1 % |

**Conclusion/Summary** : Bisphenol A epoxy resin Not readily biodegradable.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Bisphenol A epoxy resin | Fresh water 4.83 days<br>Fresh water 3.58 days<br>Fresh water 7.1 days | - | Not readily |
| Butanedioldiglycidyl ether | - | - | Not readily |
| triglycidyl isocyanurate | Fresh water 6.66 days | - | - |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Bisphenol A epoxy resin | 3.242 | 31 | low |
| Butanedioldiglycidyl ether | -0.269 | - | low |
| triglycidyl isocyanurate | -0.8 | - | low |

## Mobility in soil

Not available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

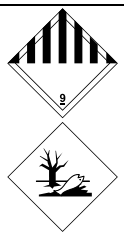
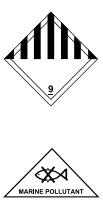
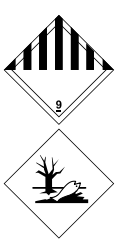
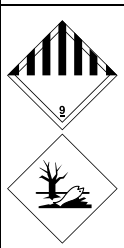
**TDG** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

**IMDG** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

**IATA** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| | | | | | |

## Section 14. Transport information

| | | | | | |
|---|---|---|---|---|---|
| **DOT Classification** | UN3082 | 9 | III |  | Marine pollutants are only regulated for bulk and vessel shipments, per 49CFR171.4 (c) Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft. |
| **TDG Classification** | UN3082 | 9 | III |  | - |
| **IMDG Classification** | UN3082 | 9 | III |  | **Emergency schedules (EmS)**<br>F-A, S-F |
| **IATA Classification** | UN3082 | 9 | III |  | **Passenger and Cargo Aircraft**<br>Quantity limitation: 450 L<br>Packaging instructions: 964<br>**Cargo Aircraft Only**<br>Quantity limitation: 450 L<br>Packaging instructions: 964 |

PG* : Packing group

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product**

**United States Regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

## Section 15. Regulatory information

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

**CERCLA Hazardous substances** : No ingredients listed.

### State regulations

**PENNSYLVANIA - RTK** : No ingredients listed.

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### Canadian regulations

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

### Brazil Regulations

**Classification system used** : **Norma ABNT-NBR 14725-2:2012**

### International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: All components are listed or exempted.
**Korea inventory**: At least one component is not listed.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: At least one component is not listed.
**Philippines inventory (PICCS)**: At least one component is not listed.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :

| | | |
|---|---|---|
| **Health** | * | 2 |
| **Flammability** | | 1 |
| **Physical hazards** | | 0 |
| **Personal protection** | | |

**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

**National Fire Protection Association (U.S.A.)** :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**Indicates information that has changed from previously issued version.**

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## Section 16. Other information

***Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.***

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# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**ARALDITE® 2014 B US**

## Section 1. Identification

**GHS product identifier** : **ARALDITE® 2014 B US**

**Product code** : 00066418

**Other means of identification** : Not available.

**Product type** : Liquid.

**Material uses** : Adhesive Hardener

**Supplier's details** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**Emergency telephone number (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION [Fertility] - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility.
Harmful to aquatic life with long lasting effects.

**Precautionary statements** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing

## Section 2. Hazards identification

before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| Polyamide resin | 3 - 7 | 68410-23-1 |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | 3 - 7 | 10563-29-8 |
| triethylenetetramine | 3 - 7 | 112-24-3 |
| Diethylenetriamine | 3 - 7 | 111-40-0 |
| Bisphenol A | 1 - 3 | 80-05-7 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

# Section 4. First aid measures

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

## Section 5. Fire-fighting measures

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Diethylenetriamine | **ACGIH TLV (United States, 6/2013).**<br>**Absorbed through skin.**<br>TWA: 4.2 mg/m³ 8 hours.<br>TWA: 1 ppm 8 hours. |

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Thixotropic paste]

**Color** : Gray.

**Odor** : Slight

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.57

**Solubility in water** : Not available.

**Water Solubility Result** : 0.1 / 20 deg C

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

## Section 9. Physical and chemical properties

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 423 Acute Oral toxicity - Acute Toxic Class Method | LD50 Oral | Rat - Female | >2 g/kg |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Unknown guidelines | LD50 Dermal | Rabbit | 1310 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1669 mg/kg |
| triethylenetetramine | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rabbit - Male, Female | 1465.4 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1716.2 mg/kg |
| Diethylenetriamine | OECD 403 Acute Inhalation Toxicity | LC50 Inhalation Dusts and mists | Rat - Male, Female | 0.185 mg/l |
| | No official guidelines | LD50 Dermal | Rabbit | 1045 mg/kg |
| | No official guidelines | LD50 Oral | Rat - Male | 1620 mg/kg |
| Bisphenol A | Unknown guidelines | LC50 Inhalation Dusts and mists | Rat - Male, Female | >170 mg/m³ |
| | Unknown guidelines | LD50 Dermal | Rabbit - Male | 6400 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 2000 to 5000 mg/kg |

#### Irritation/Corrosion

# Section 11. Toxicological information

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Polyamide resin | OECD OECD 431 In Vitro Skin Corrosion: Human Skin Model Test | Human skin model | Skin - Non-corrosive |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Corrosive |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Corrosive |
| triethylenetetramine | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Skin - Corrosive |
| | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Eyes - Corrosive |
| Diethylenetriamine | No official guidelines | Rabbit | Skin - Corrosive |
| | No official guidelines | Rabbit | Eyes - Corrosive |
| Bisphenol A | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Severe irritant |

**Conclusion/Summary**

**Skin** : Irritating to skin.

| | |
|---|---|
| Polyamide resin | Non-corrosive |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Corrosive to the skin. |
| triethylenetetramine | Corrosive to the skin. |
| Diethylenetriamine | Corrosive to the skin. |
| Bisphenol A | Non-irritating to the skin. |

**Eyes** : Corrosive to eyes.

| | |
|---|---|
| Polyamide resin | Corrosive to eyes. |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No additional information. |
| triethylenetetramine | Corrosive to eyes. |
| Diethylenetriamine | Corrosive to eyes. |
| Bisphenol A | Severely irritating to eyes. |

**Respiratory** :

| | |
|---|---|
| Polyamide resin | No additional information. |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No additional information. |
| triethylenetetramine | No additional information. |
| Diethylenetriamine | No additional information. |
| Bisphenol A | No additional information. |

**Sensitization**

# Section 11. Toxicological information

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Sensitizing |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| triethylenetetramine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Diethylenetriamine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| | No official guidelines | Respiratory | Mouse | Not sensitizing |
| Bisphenol A | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Not sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Negative |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/- | Negative |
| | Experiment: In vitro<br>Subject: Mammalian-Human<br>Metabolic activation: +/- | Negative |
| triethylenetetramine | Experiment: In vitro<br>Subject: Mammalian-Animal | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |
| Diethylenetriamine | Experiment: In vivo<br>Subject: Insect | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| Bisphenol A | Experiment: In vitro<br>Subject: bacteria/yeast<br>Metabolic activation: +/- | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |

**Conclusion/Summary :**

| | |
|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Not mutagenic in a standard battery of genetic toxicological tests. |
| triethylenetetramine | The weight of the scientific evidence indicates that this material is non-genotoxic. |
| Diethylenetriamine | No mutagenic effect. |

## Carcinogenicity

# Section 11. Toxicological information

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No official guidelines | Mouse - Male | - | 20 months; 3 days per week | Negative - Dermal - NOAEL |
| triethylenetetramine | OECD 451 Carcinogenicity Studies | Mouse - Male | 42 mg/kg | 3 days per week | Negative - Dermal - NOAEL |
| Diethylenetriamine | No official guidelines | Mouse - Male | 56.3 mg/kg | 3 days per week | Negative - Dermal - NOEL |
| Bisphenol A | - | Rat - Male, Female | - | 103 weeks; 7 days per week | Negative - Oral - NOAEL |

## Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Polyamide resin | - | Rat - Male, Female | Negative | Negative | Negative |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive | Negative | Positive |
| Diethylenetriamine | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive | Positive | Negative |
| Bisphenol A | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Positive | Negative | Negative |

**Conclusion/Summary :**

triethylenetetramine — In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

## Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive - Oral |
| triethylenetetramine | OECD 414 Prenatal Developmental Toxicity Study | Rat | Negative - Oral |
| | OECD 414 Prenatal | Rabbit | Negative - Dermal |

# Section 11. Toxicological information

| | | | |
|---|---|---|---|
| Bisphenol A | Developmental Toxicity Study OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Female | Negative - Oral |

## Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Diethylenetriamine | Category 3 | Not applicable. | Respiratory tract irritation |
| Bisphenol A | Category 3 | Not applicable. | Respiratory tract irritation |

## Specific target organ toxicity (repeated exposure)

Not available.

## Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Delayed and immediate effects and also chronic effects from short and long term exposure

# Section 11. Toxicological information

## Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Sub-chronic NOAEL Oral | Rat - Male, Female | 1000 mg/kg |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 1000 ppm |
| | No official guidelines | Chronic NOAEL Dermal | Mouse - Male | >56.3 mg/kg/d |
| | No official guidelines | Sub-acute NOEC Inhalation Vapor | Rat - Male, Female | 550 mg/m³ |
| triethylenetetramine | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg/d |
| Diethylenetriamine | OECD | Sub-chronic NOEL Oral | Rat - Male, Female | 70 to 80 mg/kg/d |
| | No official guidelines | Chronic NOAEL Dermal | Rat - Male, Female | 114 mg/kg/d |
| | No official guidelines | Sub-acute NOEC Inhalation Vapor | Rat - Male, Female | 550 mg/m³ |
| Bisphenol A | OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents | Sub-chronic LOAEL Oral | Rat - Male, Female | 600 mg/kg |
| | Unknown guidelines | Sub-chronic NOEC Inhalation Dusts and mists | Rat - Male, Female | 10 mg/m³ |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : Suspected of damaging fertility.

# Section 11. Toxicological information

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 14361.5 mg/kg |
| Dermal | 10870.7 mg/kg |
| Inhalation (dusts and mists) | 6.051 mg/l |

**Other information** : Not available.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Polyamide resin | DIN 38412 (Lumistox test) | Acute | EC0 | - | Bacteria | >100 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 days Static | Daphnia | 5.18 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Static | Algae | 4.11 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Semi-static | Fish | 7.07 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | LOAEL | 72 hours Static | Algae | 1.93 | mg/l |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | DIN DIN 38412 Part 8 | Acute | EC50 | 16 hours Static | Bacteria | 181 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 9.2 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Static | Algae | 21 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | >100 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | LOAEL | 72 hours Static | Algae | 5.7 | mg/l |
| triethylenetetramine | No official guidelines | Acute | EC50 | 30 minutes Static | Bacteria | 800 | mg/l |
| | EU EC C.2 Acute Toxicity for Daphnia | Acute | EC50 | 48 hours Static | Daphnia | 31.1 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Semi-static | Algae | 20 | mg/l |
| | EPA OPPTS EPA OTS 797.1400 | Acute | LC50 | 96 hours Static | Fish | 330 | mg/l |
| | No official guidelines | Chronic | EC10 | 30 minutes Static | Bacteria | 42.5 | mg/l |
| | OECD OECD 202: Part II (Daphnia sp., Reproduction Test | Chronic | EC10 | 21 days Semi-static | Daphnia | 1.9 | mg/l |
| | OECD 201 Alga, | Chronic | NOECr | 72 hours | Algae | <2.5 | mg/l |

## Section 12. Ecological information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Growth Inhibition Test | | | Semi-static | | | |
| Diethylenetriamine | No official guidelines | Acute | EC50 | 48 hours Static | Daphnia | 32 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | EbC50 (biomass) | 72 hours Static | Algae | 1164 | mg/l |
| | EU EC C.1 Acute Toxicity for Fish | Acute | LC50 | 96 hours Semi-static | Fish | 430 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | NOEC | 72 hours Static | Algae | 10 | mg/l |
| | No official guidelines | Chronic | NOEC | 3 hours Static | Bacteria | 6 | mg/l |
| | EU | Chronic | NOEC | 21 days Semi-static | Daphnia | 5.6 | mg/l |
| | OECD OECD 210 - Fish, Early-Life Stage Toxicity Test | Chronic | NOEC | 28 days Semi-static | Fish | 10 | mg/l |
| Bisphenol A | - | Acute | EC50 | 96 hours | Algae | 2.5 to 3.1 | mg/l |
| | - | Acute | EC50 | 48 hours | Daphnia | 3.9 to 10.2 | mg/l |
| | - | Acute | LC50 | 96 hours | Fish | 7.5 | mg/l |
| | EPA OPPTS | Chronic | NOEC | 444 days Flow-through | Fish | 0.016 | mg/l |

### Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Polyamide resin | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 74 days | 100 % |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | ISO ISO 7827, 1984 - Evaluation in an aqueous medoum of the ultimate aerobic biodegradability of organic compounds | 28 days | 100 % |
| triethylenetetramine | OECD 302A Inherent Biodegradability: Modified SCAS Test | 84 days | 20 % |
| | OECD 301D Ready Biodegradability - Closed Bottle Test | 162 days | 0 % |
| Diethylenetriamine | OECD 301D Ready Biodegradability - Closed Bottle Test | 21 days | 87 % |
| Bisphenol A | - | 28 days | 1 to 2 % |

**Conclusion/Summary** : triethylenetetramine — Not biodegradable
Diethylenetriamine — Readily biodegradable

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | - | - | Readily |
| Diethylenetriamine | - | 50%; 0.11 day(s) | Readily |
| Bisphenol A | - | - | Not readily |

### Bioaccumulative potential

## Section 12. Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Polyamide resin | - | 1.85 to 2.69 | low |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | 0.5 | - | low |
| triethylenetetramine | -2.65 | 99 | low |
| Diethylenetriamine | -1.58 | 0.3 to 6.3 | low |

**Mobility in soil**

Not available.

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Not regulated.

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

## Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product**

**United States Regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

| | Product name | Concentration % |
|---|---|---|
| **SARA 313 Form R - Reporting requirements** : | Bisphenol A | 1.9877 |

**CERCLA Hazardous substances** : No ingredients listed.

**State regulations**

**PENNSYLVANIA - RTK** : triethylenetetramine, Bisphenol A, Diethylenetriamine

## Section 15. Regulatory information

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**Canadian regulations**

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

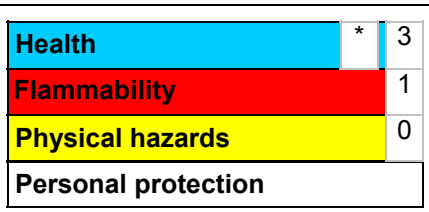
**Brazil Regulations**

**Classification system used** : **Norma ABNT-NBR 14725-2:2012**

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: Not determined.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :




**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

**National Fire Protection Association (U.S.A.)** :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# Section 16. Other information



| | | |
|---|---|---|
| **Date of printing** | : | **4/22/2014.** |
| **Date of issue** | : | 4/22/2014. |
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| **Version** | : | 4 |

**Indicates information that has changed from previously issued version.**



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# SAFETY DATA SHEET

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Enriching lives through innovation

**ARALDITE® 2014 A US**

## Section 1. Identification

**GHS product identifier** : **ARALDITE® 2014 A US**

**Product code** : 00070383

**Other means of identification** : Not available.

**Product type** :

**Material uses** : Epoxy adhesive

**Supplier's details** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**Emergency telephone number (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 1B
AQUATIC TOXICITY (ACUTE) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.6%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 9.1%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
May cause genetic defects.
Toxic to aquatic life with long lasting effects.

## Section 2. Hazards identification

**Precautionary statements** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| Bisphenol A epoxy resin | 30 - 60 | 25068-38-6 |
| barium sulphate, natural | 30 - 60 | 7727-43-7 |
| Butanedioldiglycidyl ether | 1 - 3 | 2425-79-8 |
| triglycidyl isocyanurate | 1 - 3 | 2451-62-9 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

# Section 4. First aid measures

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** :

## Section 5. Fire-fighting measures

Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product

## Section 7. Handling and storage

residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| triglycidyl isocyanurate | **ACGIH TLV (United States, 3/2012).** TWA: 0.05 mg/m³ 8 hours. |

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** :

## Section 8. Exposure controls/personal protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Paste.]

**Color** : Beige.

**Odor** : Slight

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.55

**Solubility in water** : negligible

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

# Section 10. Stability and reactivity

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | - | LC0 Inhalation Vapor | Rat - Male | 0.00001 ppm |
| | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 420 Acute Oral Toxicity - Fixed Dose Method | LD50 Oral | Rat - Female | >2000 mg/kg |
| Butanedioldiglycidyl ether | No official guidelines | LD50 Dermal | Rat - Male, Female | 2150 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1163 mg/kg |
| triglycidyl isocyanurate | OECD 403 Acute Inhalation Toxicity | LC50 Inhalation Dusts and mists | Rat - Male, Female | 1.14 mg/l |
| | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 400 to 800 mg/kg |

### Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Mild irritant |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Mild irritant |
| Butanedioldiglycidyl ether | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Severe irritant |
| triglycidyl isocyanurate | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | EPA OPPTS | Rabbit | Eyes - Severe irritant |

### Conclusion/Summary

**Skin** :
- Bisphenol A epoxy resin: Irritating to skin.
- Butanedioldiglycidyl ether: Based on the human occupational exposure data, this substance is considered as irritating to skin.
- triglycidyl isocyanurate: Non-irritating to the skin.

**Eyes** :
- Bisphenol A epoxy resin: Irritating to eyes.
- Butanedioldiglycidyl ether: Severely irritating to eyes.
- triglycidyl isocyanurate: Severely irritating to eyes.

**Respiratory** :
- Bisphenol A epoxy resin: No additional information.
- Butanedioldiglycidyl ether: No additional information.
- triglycidyl isocyanurate: No additional information.

# Section 11. Toxicological information

## Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Sensitizing |
| Butanedioldiglycidyl ether | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| triglycidyl isocyanurate | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| Bisphenol A epoxy resin | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| Butanedioldiglycidyl ether | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| triglycidyl isocyanurate | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Germ | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Human<br>Cell: Somatic<br>Metabolic activation: +/- | Negative |

**Conclusion/Summary :**

# Section 11. Toxicological information

| | |
|---|---|
| triglycidyl isocyanurate | The weight of the scientific evidence indicates that this material is genotoxic. |

## Carcinogenicity

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Male, Female | 15 mg/kg | 2 years; 7 days per week | Negative - Oral - NOAEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Female | 1 mg/kg | 2 years; 5 days per week | Negative - Dermal - NOEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Mouse - Male | 0.1 mg/kg | 2 years; 3 days per week | Negative - Dermal - NOEL |
| triglycidyl isocyanurate | OECD 451 Carcinogenicity Studies | Rat - Male | 4.36 mg/kg | 99 weeks; 24 hours per day | Negative - Oral - NOAEL |

## Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Negative | Negative | Negative |
| triglycidyl isocyanurate | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Rat - Male | Negative | Negative | Negative |

**Conclusion/Summary :**

| | |
|---|---|
| triglycidyl isocyanurate | No known significant effects or critical hazards. |

## Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 414 Prenatal Developmental Toxicity Study | Rat - Female | Negative - Oral |
| | EPA CFR | Rabbit - Female | Negative - Dermal |
| | OECD 414 Prenatal Developmental Toxicity Study | Rabbit - Female | Negative - Oral |

# Section 11. Toxicological information

**Conclusion/Summary** :

| | |
|---|---|
| triglycidyl isocyanurate | In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted. |

## Specific target organ toxicity (single exposure)

Not available.

## Specific target organ toxicity (repeated exposure)

Not available.

## Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

# Section 11. Toxicological information

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOEL Dermal | Rat - Male, Female | 10 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOAEL Dermal | Mouse - Male | 100 mg/kg |
| Butanedioldiglycidyl ether | OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 200 mg/kg |
| triglycidyl isocyanurate | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 7.32 mg/kg/d |
| | OECD | Sub-acute NOEC Inhalation Dusts and mists | Mouse - Male | <100 mg/m³ |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : May cause genetic defects if swallowed.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

| Route | ATE value |
|---|---|
| Dermal | 56122.4 mg/kg |
| Inhalation (dusts and mists) | 34.17 mg/l |

**Other information** : Not available.

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Bisphenol A epoxy resin | EPA CFR | Acute | EC50 | 72 hours Static | Algae | 9.4 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 1.7 | mg/l |
| | Unknown guidelines | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 1.5 | mg/l |

# Section 12. Ecological information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | OECD 211 *Daphnia Magna* Reproduction Test | Chronic | NOEC | 21 days Semi-static | Daphnia | 0.3 | mg/l |
| Butanedioldiglycidyl ether | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 24 hours Static | Daphnia | 75 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | EL50 | 72 hours Static | Algae | >160 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 24 | mg/l |
| triglycidyl isocyanurate | OECD 201 Alga, Growth Inhibition Test | Acute | EbC50 (biomass) | 72 hours Static | Algae | 29 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | LC50 | 24 hours Static | Daphnia | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | >77 | mg/l |

## Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD Derived from OECD 301F (Biodegradation Test) | 28 days | 5 % |
| Butanedioldiglycidyl ether | OECD 301F Ready Biodegradability - Manometric Respirometry Test | 28 days | 43 % |
| triglycidyl isocyanurate | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 44 days | 0.5 to 1 % |

**Conclusion/Summary** : Bisphenol A epoxy resin Not readily biodegradable.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Bisphenol A epoxy resin | Fresh water 4.83 days<br>Fresh water 3.58 days<br>Fresh water 7.1 days | - | Not readily |
| Butanedioldiglycidyl ether | - | - | Not readily |
| triglycidyl isocyanurate | Fresh water 6.66 days | - | - |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Bisphenol A epoxy resin | 3.242 | 31 | low |
| Butanedioldiglycidyl ether | -0.269 | - | low |
| triglycidyl isocyanurate | -0.8 | - | low |

## Mobility in soil

Not available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

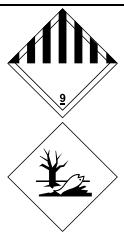
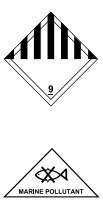
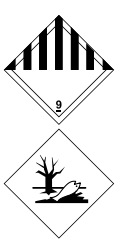
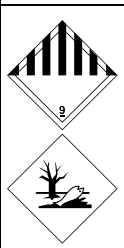
**TDG** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

**IMDG** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin Marine pollutant

**IATA** : Environmentally hazardous substance, liquid, n.o.s. Bisphenol a epoxy resin

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| | | | | | |

## Section 14. Transport information

| | | | | | |
|---|---|---|---|---|---|
| **DOT Classification** | UN3082 | 9 | III |  | Marine pollutants are only regulated for bulk and vessel shipments, per 49CFR171.4 (c) Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft. |
| **TDG Classification** | UN3082 | 9 | III |  | - |
| **IMDG Classification** | UN3082 | 9 | III |  | **Emergency schedules (EmS)**<br>F-A, S-F |
| **IATA Classification** | UN3082 | 9 | III |  | **Passenger and Cargo Aircraft**<br>Quantity limitation: 450 L<br>Packaging instructions: 964<br>**Cargo Aircraft Only**<br>Quantity limitation: 450 L<br>Packaging instructions: 964 |

PG* : Packing group

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product**

**United States Regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

## Section 15. Regulatory information

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

**CERCLA Hazardous substances** : No ingredients listed.

### State regulations

**PENNSYLVANIA - RTK** : No ingredients listed.

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### Canadian regulations

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

### Brazil Regulations

**Classification system used** : **Norma ABNT-NBR 14725-2:2012**

### International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: All components are listed or exempted.
**Korea inventory**: At least one component is not listed.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: At least one component is not listed.
**Philippines inventory (PICCS)**: At least one component is not listed.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :

| | | |
|---|---|---|
| **Health** | * | 2 |
| **Flammability** | | 1 |
| **Physical hazards** | | 0 |
| **Personal protection** | | |

**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

**National Fire Protection Association (U.S.A.)** :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**Indicates information that has changed from previously issued version.**

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***THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.***

## Section 16. Other information

***Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.***

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# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**ARALDITE® 2014 B US**

## Section 1. Identification

**GHS product identifier** : **ARALDITE® 2014 B US**

**Product code** : 00066418

**Other means of identification** : Not available.

**Product type** : Liquid.

**Material uses** : Adhesive Hardener

**Supplier's details** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**Emergency telephone number (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION [Fertility] - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility.
Harmful to aquatic life with long lasting effects.

**Precautionary statements** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing

## Section 2. Hazards identification

before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| Polyamide resin | 3 - 7 | 68410-23-1 |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | 3 - 7 | 10563-29-8 |
| triethylenetetramine | 3 - 7 | 112-24-3 |
| Diethylenetriamine | 3 - 7 | 111-40-0 |
| Bisphenol A | 1 - 3 | 80-05-7 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**~~Description of necessary first aid measures~~**

**Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

# Section 4. First aid measures

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

## Section 5. Fire-fighting measures

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Diethylenetriamine | **ACGIH TLV (United States, 6/2013).**<br>**Absorbed through skin.**<br>TWA: 4.2 mg/m³ 8 hours.<br>TWA: 1 ppm 8 hours. |

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Thixotropic paste]

**Color** : Gray.

**Odor** : Slight

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >93°C (>199.4°F) [Estimated]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.57

**Solubility in water** : Not available.

**Water Solubility Result** : 0.1 / 20 deg C

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

## Section 9. Physical and chemical properties

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 423 Acute Oral toxicity - Acute Toxic Class Method | LD50 Oral | Rat - Female | >2 g/kg |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Unknown guidelines | LD50 Dermal | Rabbit | 1310 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1669 mg/kg |
| triethylenetetramine | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rabbit - Male, Female | 1465.4 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1716.2 mg/kg |
| Diethylenetriamine | OECD 403 Acute Inhalation Toxicity | LC50 Inhalation Dusts and mists | Rat - Male, Female | 0.185 mg/l |
| | No official guidelines | LD50 Dermal | Rabbit | 1045 mg/kg |
| | No official guidelines | LD50 Oral | Rat - Male | 1620 mg/kg |
| Bisphenol A | Unknown guidelines | LC50 Inhalation Dusts and mists | Rat - Male, Female | >170 mg/m³ |
| | Unknown guidelines | LD50 Dermal | Rabbit - Male | 6400 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 2000 to 5000 mg/kg |

#### Irritation/Corrosion

# Section 11. Toxicological information

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Polyamide resin | OECD OECD 431 In Vitro Skin Corrosion: Human Skin Model Test | Human skin model | Skin - Non-corrosive |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Corrosive |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Corrosive |
| triethylenetetramine | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Skin - Corrosive |
| | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Eyes - Corrosive |
| Diethylenetriamine | No official guidelines | Rabbit | Skin - Corrosive |
| | No official guidelines | Rabbit | Eyes - Corrosive |
| Bisphenol A | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Severe irritant |

**Conclusion/Summary**

**Skin** : Irritating to skin.

| | |
|---|---|
| Polyamide resin | Non-corrosive |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Corrosive to the skin. |
| triethylenetetramine | Corrosive to the skin. |
| Diethylenetriamine | Corrosive to the skin. |
| Bisphenol A | Non-irritating to the skin. |

**Eyes** : Corrosive to eyes.

| | |
|---|---|
| Polyamide resin | Corrosive to eyes. |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No additional information. |
| triethylenetetramine | Corrosive to eyes. |
| Diethylenetriamine | Corrosive to eyes. |
| Bisphenol A | Severely irritating to eyes. |

**Respiratory** :

| | |
|---|---|
| Polyamide resin | No additional information. |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No additional information. |
| triethylenetetramine | No additional information. |
| Diethylenetriamine | No additional information. |
| Bisphenol A | No additional information. |

**Sensitization**

# Section 11. Toxicological information

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Sensitizing |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| triethylenetetramine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Diethylenetriamine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| | No official guidelines | Respiratory | Mouse | Not sensitizing |
| Bisphenol A | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Not sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Negative |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/- | Negative |
| | Experiment: In vitro<br>Subject: Mammalian-Human<br>Metabolic activation: +/- | Negative |
| triethylenetetramine | Experiment: In vitro<br>Subject: Mammalian-Animal | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |
| Diethylenetriamine | Experiment: In vivo<br>Subject: Insect | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |
| Bisphenol A | Experiment: In vitro<br>Subject: bacteria/yeast<br>Metabolic activation: +/- | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |

**Conclusion/Summary :**

| | |
|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | Not mutagenic in a standard battery of genetic toxicological tests. |
| triethylenetetramine | The weight of the scientific evidence indicates that this material is non-genotoxic. |
| Diethylenetriamine | No mutagenic effect. |

## Carcinogenicity

# Section 11. Toxicological information

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | No official guidelines | Mouse - Male | - | 20 months; 3 days per week | Negative - Dermal - NOAEL |
| triethylenetetramine | OECD 451 Carcinogenicity Studies | Mouse - Male | 42 mg/kg | 3 days per week | Negative - Dermal - NOAEL |
| Diethylenetriamine | No official guidelines | Mouse - Male | 56.3 mg/kg | 3 days per week | Negative - Dermal - NOEL |
| Bisphenol A | - | Rat - Male, Female | - | 103 weeks; 7 days per week | Negative - Oral - NOAEL |

## Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Polyamide resin | - | Rat - Male, Female | Negative | Negative | Negative |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive | Negative | Positive |
| Diethylenetriamine | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive | Positive | Negative |
| Bisphenol A | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Positive | Negative | Negative |

**Conclusion/Summary :**

triethylenetetramine — In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

## Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | Positive - Oral |
| triethylenetetramine | OECD 414 Prenatal Developmental Toxicity Study | Rat | Negative - Oral |
| | OECD 414 Prenatal | Rabbit | Negative - Dermal |

# Section 11. Toxicological information

| | | | |
|---|---|---|---|
| Bisphenol A | Developmental Toxicity Study OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Female | Negative - Oral |

## Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Diethylenetriamine | Category 3 | Not applicable. | Respiratory tract irritation |
| Bisphenol A | Category 3 | Not applicable. | Respiratory tract irritation |

## Specific target organ toxicity (repeated exposure)

Not available.

## Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Delayed and immediate effects and also chronic effects from short and long term exposure

# Section 11. Toxicological information

## Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Polyamide resin | OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test | Sub-chronic NOAEL Oral | Rat - Male, Female | 1000 mg/kg |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1, 3-diamine | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 1000 ppm |
| | No official guidelines | Chronic NOAEL Dermal | Mouse - Male | >56.3 mg/kg/d |
| | No official guidelines | Sub-acute NOEC Inhalation Vapor | Rat - Male, Female | 550 mg/m³ |
| triethylenetetramine | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg/d |
| Diethylenetriamine | OECD | Sub-chronic NOEL Oral | Rat - Male, Female | 70 to 80 mg/kg/d |
| | No official guidelines | Chronic NOAEL Dermal | Rat - Male, Female | 114 mg/kg/d |
| | No official guidelines | Sub-acute NOEC Inhalation Vapor | Rat - Male, Female | 550 mg/m³ |
| Bisphenol A | OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents | Sub-chronic LOAEL Oral | Rat - Male, Female | 600 mg/kg |
| | Unknown guidelines | Sub-chronic NOEC Inhalation Dusts and mists | Rat - Male, Female | 10 mg/m³ |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : Suspected of damaging fertility.

# Section 11. Toxicological information

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 14361.5 mg/kg |
| Dermal | 10870.7 mg/kg |
| Inhalation (dusts and mists) | 6.051 mg/l |

**Other information** : Not available.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Polyamide resin | DIN 38412 (Lumistox test) | Acute | EC0 | - | Bacteria | >100 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 days Static | Daphnia | 5.18 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Static | Algae | 4.11 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Semi-static | Fish | 7.07 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | LOAEL | 72 hours Static | Algae | 1.93 | mg/l |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | DIN DIN 38412 Part 8 | Acute | EC50 | 16 hours Static | Bacteria | 181 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 9.2 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Static | Algae | 21 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | >100 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | LOAEL | 72 hours Static | Algae | 5.7 | mg/l |
| triethylenetetramine | No official guidelines | Acute | EC50 | 30 minutes Static | Bacteria | 800 | mg/l |
| | EU EC C.2 Acute Toxicity for Daphnia | Acute | EC50 | 48 hours Static | Daphnia | 31.1 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Semi-static | Algae | 20 | mg/l |
| | EPA OPPTS EPA OTS 797.1400 | Acute | LC50 | 96 hours Static | Fish | 330 | mg/l |
| | No official guidelines | Chronic | EC10 | 30 minutes Static | Bacteria | 42.5 | mg/l |
| | OECD OECD 202: Part II (Daphnia sp., Reproduction Test | Chronic | EC10 | 21 days Semi-static | Daphnia | 1.9 | mg/l |
| | OECD 201 Alga, | Chronic | NOECr | 72 hours | Algae | <2.5 | mg/l |

## Section 12. Ecological information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Growth Inhibition Test | | | Semi-static | | | |
| Diethylenetriamine | No official guidelines | Acute | EC50 | 48 hours Static | Daphnia | 32 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | EbC50 (biomass) | 72 hours Static | Algae | 1164 | mg/l |
| | EU EC C.1 Acute Toxicity for Fish | Acute | LC50 | 96 hours Semi-static | Fish | 430 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | NOEC | 72 hours Static | Algae | 10 | mg/l |
| | No official guidelines | Chronic | NOEC | 3 hours Static | Bacteria | 6 | mg/l |
| | EU | Chronic | NOEC | 21 days Semi-static | Daphnia | 5.6 | mg/l |
| | OECD OECD 210 - Fish, Early-Life Stage Toxicity Test | Chronic | NOEC | 28 days Semi-static | Fish | 10 | mg/l |
| Bisphenol A | - | Acute | EC50 | 96 hours | Algae | 2.5 to 3.1 | mg/l |
| | - | Acute | EC50 | 48 hours | Daphnia | 3.9 to 10.2 | mg/l |
| | - | Acute | LC50 | 96 hours | Fish | 7.5 | mg/l |
| | EPA OPPTS | Chronic | NOEC | 444 days Flow-through | Fish | 0.016 | mg/l |

### Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Polyamide resin | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 74 days | 100 % |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | ISO ISO 7827, 1984 - Evaluation in an aqueous medoum of the ultimate aerobic biodegradability of organic compounds | 28 days | 100 % |
| triethylenetetramine | OECD 302A Inherent Biodegradability: Modified SCAS Test | 84 days | 20 % |
| | OECD 301D Ready Biodegradability - Closed Bottle Test | 162 days | 0 % |
| Diethylenetriamine | OECD 301D Ready Biodegradability - Closed Bottle Test | 21 days | 87 % |
| Bisphenol A | - | 28 days | 1 to 2 % |

**Conclusion/Summary** : triethylenetetramine — Not biodegradable
Diethylenetriamine — Readily biodegradable

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | - | - | Readily |
| Diethylenetriamine | - | 50%; 0.11 day(s) | Readily |
| Bisphenol A | - | - | Not readily |

### Bioaccumulative potential

## Section 12. Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Polyamide resin | - | 1.85 to 2.69 | low |
| N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine | 0.5 | - | low |
| triethylenetetramine | -2.65 | 99 | low |
| Diethylenetriamine | -1.58 | 0.3 to 6.3 | low |

**Mobility in soil**

Not available.

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Not regulated.

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

## Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product**

**United States Regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

| | Product name | Concentration % |
|---|---|---|
| **SARA 313 Form R - Reporting requirements** : | Bisphenol A | 1.9877 |

**CERCLA Hazardous substances** : No ingredients listed.

**State regulations**

**PENNSYLVANIA - RTK** : triethylenetetramine, Bisphenol A, Diethylenetriamine

## Section 15. Regulatory information

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**Canadian regulations**

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

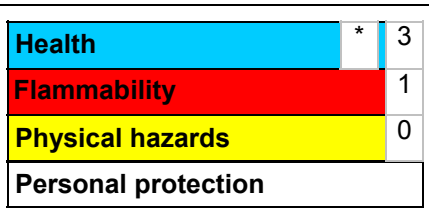
**Brazil Regulations**

**Classification system used** : **Norma ABNT-NBR 14725-2:2012**

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: Not determined.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :




**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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## Section 16. Other information



| | | |
|---|---|---|
| **Date of printing** | : | **4/22/2014.** |
| **Date of issue** | : | 4/22/2014. |
| **Date of previous issue** | : | 4/22/2014. |
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**Indicates information that has changed from previously issued version.**



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***THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.***

***Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.***

***NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.***

BERRYMAN PRODUCTS -- 0155 B12 CHEMTOOL CARBURETOR CLEANER -- 6850-00F026769

========== Product Identification ==========

Product ID:0155 B12 CHEMTOOL CARBURETOR CLEANER
MSDS Date:04/29/1992
FSC:6850
NIIN:00F026769
MSDS Number: BQJZF
=== Responsible Party ===
Company Name:BERRYMAN PRODUCTS
Address:3800 E RANDALL MILL
City:ARLINGTON
State:TX
ZIP:76011
Country:US
Info Phone Num:817-640-2376
Emergency Phone Num:817-640-2376
CAGE:0TAY6
=== Contractor Identification ===
Company Name:BERRYMAN PRODUCTS
Address:3800 E RANDALL MILL
Box:City:ARLINGTON
State:TX
ZIP:76011
Country:US
Phone:817-640-2376
CAGE:0TAY6

========== Composition/Information on Ingredients ==========

Ingred Name:ISOPROPANOL (ISOPROPYL ALCOHOL), 2-PROPANOL, DIMETHYL
CARBINOL
CAS:67-63-0
RTECS #:NT8050000
Other REC Limits:400 PPM
OSHA PEL:400 PPM
ACGIH TLV:400 PPM

Ingred Name:ACETONE; DIMETHYL KETONE
CAS:67-64-1
RTECS #:AL3150000
Fraction by Wt: 23%
OSHA PEL:1000PPM
ACGIH TLV:750PPM/1000STEL;9293
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:TOLUENE
CAS:108-88-3
RTECS #:XS5250000
Fraction by Wt: 22%
Other REC Limits:375 MG/CUM
OSHA PEL:200 PPM/150 STEL
ACGIH TLV:50 PPM; 9293
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:LIGHT ALIPHATIC NAPHTHA, VM & P NAPHTHA, LACOLENE *92/4*
CAS:64742-89-8
OSHA PEL:300 PPM
ACGIH TLV:300 PPM

Ingred Name:2-BUTOXYETHANOL (ETHYLENEGLYCOL MONOBUTYL ETHER), BUTYL
CELLOSOLVE, BUTYL GLYCOL, GLYCOL ETHER EB
CAS:111-76-2
RTECS #:KJ8575000
Fraction by Wt: 8%

Other REC Limits:25 PPM (SKIN)
OSHA PEL:S, 50 PPM
ACGIH TLV:S, 25 PPM; 9293

Ingred Name:2-BUTANONE (METHYL ETHYL KETONE) (MEK)
CAS:78-93-3
RTECS #:EL6475000
Fraction by Wt: 5%
Other REC Limits:590 MG/CUM
OSHA PEL:200 PPM
ACGIH TLV:590 MG/CUM
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:METHANOL (METHYL ALCOHOL), COLUMBIAN SPIRITS
CAS:67-56-1
RTECS #:PC1400000
Fraction by Wt: 3%
Other REC Limits:200 PPM
OSHA PEL:S,200PPM/250STEL
ACGIH TLV:S,200PPM/250STEL; 93
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:WEIGHT PER GALLON IN POUNDS: 6.751
RTECS #:9999999WG

Ingred Name:VOL ORGANIC CMPD: 810.5
RTECS #:9999999VO

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:SKIN: IRRITATION, DEFATTING,
DERMATITIS, ABSORPTION MAY BE HARMFUL. EYES: IRRITATION, REDNESS,
TEARING, BLURRED VISION. INHALATION: ANESTHETIC. RESPIRATORY TRACT
IRRITATION. INGESTION: HARMFUL OR FATA L. ABDOMINAL IRRITATION,
NAUSEA, VOMITING & DIARRHEA.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:INHALATION: NERVOUS SYSTEM DEPRESSION. DAMAGE
TO KIDNEYS, BLOOD, NERVES, LIVER & LUNGS.
Medical Cond Aggravated by Exposure:SKIN, LIVER, HEART, LUNG, OR KIDNEY
PROBLEMS.

========== First Aid Measures ==========

First Aid:EYES: FLUSH W/PLENTY OF WATER FOR 15 MINS. SKIN: WASH W/SOAP
& WATER. INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS
DIFFICULT, GIVE OXYGEN. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL
RESPIRATION. IN GESTION: NEVER GIVE ANYTHING BY MOUTH TO AN
UNCONSCIOUS PERSON. OBTAIN MEDICAL ATTENTION IN ALL CASES.

========== Fire Fighting Measures ==========

Flash Point Method:TCC
Flash Point:-16C/2F
Lower Limits:2%
Extinguishing Media:CO2 OR FOAM
Fire Fighting Procedures:WATER SPRAY: INEFFECTIVE, BUT USE TO COOL
CLOSED CONTAINERS. FOG NOZZLES PREFERRED. USE NIOSH APPROVED
POSITIVE PRESSURE SCBA.
Unusual Fire/Explosion Hazard:EXTREMELY FLAMMABLE. VAPORS CAN CAUSE
FLASH FIRE. CLOSED CONTAINER MAY EXPLODE IF EXPOSED TO EXTREME
HEAT. APPLYING TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS

========== Accidental Release Measures ==========

Spill Release Procedures:STOP SPILL AT SOURCE. DIKE AREA & CONTAIN.

CLEAN UP REMAINDER W/ABSORBENT MATERIALS. MOP UP & DISPOSE OF. PERSONS W/OUT PROPER PROTECTIVE EQUIPMENT SHOULD BE KEPT OUT OF THE AREA.

========== Handling and Storage ==========

Handling and Storage Precautions:USE ONLY W/ADEQUATE VENTILATION. KEEP CONTAINER TIGHTLY CLOSED & UPRIGHT WHEN NOT IN USE TO PREVENT LEAKAGE. GROUND CONTAINERS WHEN TRANSFERRING.
Other Precautions:DON'T FLAME CUT, SAW, DRILL, BRAZE, OR WELD. EMPTY CONTAINER VERY HAZARDOUS. PUT OUT PILOT LIGHTS, TURN OFF HEATERS, ELECTRIC EQUIPMENT & OTHER IGNITION SOURCES DURING USE & UNTIL ALL VAPORS ARE GONE. AVOID FREE FALL OF LIQUID.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:IF OVER TLV, USE A NIOSH APPROVED POSITIVE-PRESSURE SELF CONTAINED BREATHING APPARATUS.
Ventilation:LOCAL EXHAUST: NECESSARY. MECHANICAL (GENERAL): ACCEPTABLE. USE EXPLOSION PROOF EQUIPMENT.
Protective Gloves:IMPERVIOUS RECOMMENDED
Eye Protection:OSHA STANDARD GOGGLES, FACE SHIELD
Other Protective Equipment:IMPERVIOUS APRON & FOOTWEAR
Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES.
Supplemental Safety and Health

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:134-188F
Vapor Pres:68.5
Vapor Density:2.6
Spec Gravity:0.811
Appearance and Odor:LIQUID, WATER-WHITE W/KETONE ODOR.
Percent Volatiles by Volume:100%

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZERS SUCH AS PERMANGANATES, CHROMATES & PEROXIDES.
Stability Condition to Avoid:EXTREME HEAT, SPARKS, OPEN FLAME, OR OTHER IGNITION SOURCES.
Hazardous Decomposition Products:CO, CO2

========== Disposal Considerations ==========

Waste Disposal Methods:RECYCLE OR DISPOSE OF IN ACCORDANCE W/LOCAL, STATE & FEDERAL REGULATIONS. EXTREMELY FLAMMABLE.

# MSDS

## SECTION 1 – Chemical Product and Company Identification

**CATALYST SYSTEMS**
***U S Chemical & Plastics***
***Alco Industries Companies***
**PO Box 88**
**2290 Zimmerman Rd SE**
**Gnadenhutten, OH 44629**
**PH: 740-254-4311**

**CHEMTREC: 1-800-424-9300**

| | |
|---|---|
| **PRODUCT NAME:** | **CREAM HARDENER** |
| **PRODUCT CODE:** | **27640/White, 27641/Red, 27642/Green, 27643/Blue, 28050/Black, 28070/Lt. Red Additional Product Codes on Page 4.** |
| **SYNONYM/CROSS REFERENCE:** | **Polyester Cream Hardener/Polyester Catalyst, Benzoyl Peroxide Paste** |
| **SCHEDULE B NUMBER:** | **3815.90.0000** |

## SECTION 2 – Hazard Identification

OVEREXPOSURE EFFECTS
ACUTE EFFECTS:
EYES: Contact with eyes can cause irritation, redness, tearing, blurred vision, and/or swelling.
SKIN: Contact with skin can cause irritation, (minor itching, burning, and/or redness), dermatitis, defatting may be readily absorbed through the skin.
INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.
INGESTION: Ingestion can cause gastro-intestinal irritation, nausea, vomiting, diarrhea.

PRIMARY ROUTES OF EXPOSURE: Skin, inhalation

## SECTION 3 – Composition, Information or Ingredients

| INGREDIENTS | WGT% | CAS # |
|---|---|---|
| Benzoyl Peroxide | 47.5 – 50.0 | 94-36-0 |

## SECTION 4 – First Aid Measures

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.
SKIN: For skin contact, wash promptly with soap and excess water.
EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.
INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

## SECTION 5 – Fire-Fighting Measures

FIRE EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam
SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.

# MSDS

UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

## SECTION 6 – Accidental Release Measures

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

## SECTION 7 – Handling and Storage

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis, and oxidizers.

## SECTION 8 – Exposure Controls and Personal Protection

| INGREDIENTS | CAS # | TLV/PEL |
|---|---|---|
| Benzoyl Peroxide | 94-36-0 | Combustible when dry: TLV 5 mg/m$^3$* |

*Refer to 29 CFR 1910.0000, subpart Z.
Also see TLV for Chemical Substances and Physical Agents in the Work Environment (ACGIH).

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary.
VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.
PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin.
EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.
OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

## SECTION 9 – Physical and Chemical Properties

APPEARANCE: Red, white, blue, green, or light red paste
SPECIFIC GRAVITY: 1.20
VAPOR PRESSURE (mmHG): N/E
BOILING POINT: Decomposes
VAPOR DENSITY: (Air=1) >1
EVAPORATION RATE (Ethyl Ether = 1): <1
VOLATILES BY WEIGHT: 10 - 20%
SOLUBILITY IN WATER: Insoluble
FLASH POINT: 184°F/84°C
LOWER FLAMMABLE LIMIT %: N/E
UPPER FLAMMABLE LIMIT %: N/E
VOC: Grams/Liter = Nil
Lbs/Gallon = Nil

# MSDS

## SECTION 10 – Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Open flames, sparks, heat, electrical and static discharge.
INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide, and Carbon.
HAZARDOUS POLYMERIZATION: Will not occur.

## SECTION 11 – Toxicological Information

CHRONIC EFFECTS: Overexposure to this material has apparently been known to cause the following effects in lab animals: skin damage and tumors.

CARCINOGEN: YES __ NO X
TERATOGEN: YES __ NO X
MUTAGEN: YES __ NO X

**Benzoyl Peroxide has caused tumorogenic effects in laboratory animals.**

## SECTION 12 – Ecological Information

None.

## SECTION 13 – Disposal Considerations

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

## SECTION 14 – Transport Information

**For Ground Transport:** In USA – In inner containers less than 500 grams each: Consumer Commodity ORM-D or Limited Quantity. In large containers, UN3108, Organic Peroxide Type E, Solid (≤ 52% Dibenzoyl Peroxide as a paste), 5.2, PG II.

**For Air Transport:** Must be re-boxed to UN specified packaging. UN3108, Organic Peroxide Type E, Solid (≤ 52% Dibenzoyl Peroxide as a paste), 5.2, Packaging Instruction 570.

**For Ocean Transport:** UN3108, Organic Peroxide Type E, Solid, 5.2, EMS#F-J, S-R (the activator is ≤ 52% Dibenzoyl Peroxide as a paste). Limited quantity if inner containers are less than 500 grams each.

## SECTION 15 – Regulatory Information

CALIFORNIA PROPOSITION 65:
This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

SECTION 313 SUPPLIER NOTIFICATION:

# MSDS

This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

| CHEMICAL NAME | CAS | % BY WGT |
|---|---|---|
| Benzoyl Peroxide | 94-36-0 | 47.5 – 50% |

This information must be included in all MSDS that are copied and distributed for this chemical.

## SECTION 16 – Other Information

| | | | |
|---|---|---|---|
| HMIS RATING: | Health | 2 | 4 = Extreme |
| | Fire | 2 | 3 = High |
| | Reactivity | 2 | 2 = Moderate |
| | | | 1 = Slight |
| | | | 0 = Insignificant |

Personal Protection - See Section VIII

NOTE: ADDITIONAL PART NUMBERS:

| | |
|---|---|
| Bulk Red | **27641**<br>27008, 27010, 27020, 27027, 27110, 27120, 27121, 27125, 27169, 27170, 27172, 27173, 27174, 27607, 27604, 27607, 27610, 27616, 27626, 27632, 27644, 27649, 27663, 27673, 27690, 27690-1, 27697, 27750, 27751, 28015, 28016, 28028, 28139, 28144, 28149, 28164, 28187 |
| Bulk Lt. Red/Red Raspberry | **28070**<br>27032, 27034, 27111, 27128, 27171, 27633, 27656, 28071, 28143, 28148, 28153 |
| Bulk Light Blue | **27642**<br>27615, 28169 |
| Bulk Blue | **27643**<br>27012, 27022, 27041, 27112, 27115, 27122, 27160, 27603, 27619, 27622, 27628, 27634, 27646, 27665, 27675, 27676, 27677, 27678, 27679, 28029, 28030, 28136, 28141, 28146, 28151, 28156, 28159, 28163, 28165, 28167 |
| Bulk White | **27640**<br>27014, 27024, 27036, 27038, 27114, 27124, 27132, 27168, 27201, 27211, 27621, 27627, 27647, 27648, 27664, 27674, 28025, 28031, 28042, 28043, 28059, 28145, 28150, 28171, 28184, 28185 |
| Bulk Black | **28050**<br>27031, 27035, 27037, 27624, 27669, 28032, 28052, 28183, 28186 |
| Bulk Green | **27638**<br>27637, 28038, 28147 |
| Bulk Yellow | **27636**<br>27614, 28168 |

# MSDS

## ABBREVIATIONS

IARC = International Agency for Research on Cancer
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value
PEL = Permissible Emission Level
DOT = Department of Transportation
NTP = National Toxicology Program
N/AV = Not Available
N/AP = Not Applicable
N/E = Not Established
N/D = Not Determined

PREPARED BY:

**CATALYST SYSTEMS**
*U S Chemical & Plastics*
*Alco Industries Companies*
PO Box 88
2290 Zimmerman Rd SE
Gnadenhutten, OH 44629
PH: 740-254-4311

DATE REVIEWED: January 4, 2012
DATE REVISED: January 4, 2012
REVISION: Section 16

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.

# SAFETY DATA SHEET

**Issuing Date** 09-Apr-2014 **Revision Date** 08-May-2015 **Revision Number** 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**GHS product identifier**

**Product Name** **Dykem Transparent Stain Bulk - Steel Blue, Steel Red and Black**

**Other means of identification**

**Part Number** Dk Blue - Steel Blue (80200, 80300, 80400, 80600, 80700), Red - Steel Red (80296, 80396, 80496, 80696), Black (81731)

**Formula Code** Dk Blue - Steel Blue (8706), Red - Steel Red (8705), Black (8749)

**UN-Number** UN1263

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Staining Colors

**Uses advised against** No information available

**Supplier's details**

**Supplier Address**
ITW Pro Brands
805 E. Old 56 Highway
Olathe, KS 66061
TEL: 1-800-443-9536

**Emergency telephone number**

**Emergency Telephone Number** 800-535-5053 Infotrac

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

| | |
|---|---|
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Reproductive Toxicity | Category 2 |
| Specific Target Organ Systemic Toxicity (Single Exposure) | Category 3 |

| | |
|---|---|
| Flammable liquids | Category 2 |

**GHS Label elements, including precautionary statements**

**Emergency Overview**

**Signal Word** **Danger**

**Hazard Statements**

• Causes skin irritation
• Causes serious eye damage
• Suspected of damaging fertility or the unborn child
• May cause respiratory irritation
• May cause drowsiness or dizziness
•
• Highly flammable liquid and vapor.

**Appearance** Red, Blue, Black, Color: Thin viscosity, **Physical State** Liquid. **Odor** Sweet, Solvent

**Precautionary Statements**

**Prevention**

• Wash face, hands and any exposed skin thoroughly after handling
• Avoid breathing dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Obtain special instructions before use
• Do not handle until all safety precautions have been read and understood
• Use personal protective equipment as required
• Keep away from heat/sparks/open flames/hot surfaces - No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge
• Keep cool
• Wear protective gloves/protective clothing/eye protection/face protection.

**General Advice**

• If exposed or concerned: Get medical attention/advice
• Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
• Immediately call a POISON CENTER or doctor/physician.

**Skin**

• If skin irritation occurs: Get medical advice/attention
• IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
• Wash contaminated clothing before reuse.

**Inhalation**

• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Fire**
• In case of fire: Use CO2, dry chemical, or foam for extinction.

**Storage**
• Store in a well-ventilated place. Keep container tightly closed
• Store locked up.

**Disposal**
• Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**
Toxic to aquatic life.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % | Trade secret |
|---|---|---|---|
| Ethanol | 64-17-5 | 30-60 | * |
| n-Butyl acetate | 123-86-4 | 30-60 | * |
| n-Butyl alcohol | 71-36-3 | 10-30 | * |
| Diacetone alcohol | 123-42-2 | 3 -7 | * |
| Isopropyl alcohol | 67-63-0 | 1-5 | * |
| n-Propyl acetate | 109-60-4 | 1-5 | * |
| Basic Green 4 | 18015-76-4 | 0.1-1 | * |

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

## 4. FIRST AID MEASURES

**Description of necessary first-aid measures**

**General Advice** Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Immediate medical attention is required.

**Skin Contact** Wash off immediately with plenty of water. Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician.

**Inhalation** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

**Ingestion** If large quantities of this material are swallowed, call a physician immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

**Protection of First-aiders** Use personal protective equipment. Remove all sources of ignition.

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Carbon dioxide ($CO_2$). Foam. Dry chemical. Water fog.

**Unsuitable Extinguishing Media** None

**Specific Hazards Arising from the Chemical**
Flammable. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back.

**Explosion Data**

| | |
|---|---|
| **Sensitivity to Mechanical Impact** | None. |
| **Sensitivity to Static Discharge** | Yes. |

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to cool surrounding containers.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal Precautions** | Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. |

**Environmental Precautions**

| | |
|---|---|
| **Environmental Precautions** | Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid release to the environment. Dispose of contents/container to an approved waste disposal plant. See Section 12 for additional Ecological Information |

**Methods and materials for containment and cleaning up**

| | |
|---|---|
| **Methods for Containment** | Prevent further leakage or spillage if safe to do so. |
| **Methods for Cleaning Up** | Ground and bond containers when transferring material. Small spillage: Take up with sand, earth or other noncombustible absorbent material Pick up and transfer to properly labeled containers. Large spillage: Pump any free liquid into an appropriate closed container. |

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

| | |
|---|---|
| **Handling** | Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. Do not breathe vapors or spray mist. Ensure adequate ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. |

**Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage** | Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children. |
| **Incompatible Products** | Strong oxidizing agents. Strong acids. Strong reducing agents. Strong alkalis. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Ethanol<br>64-17-5 | STEL: 1000 ppm | TWA: 1000 ppm<br>TWA: 1900 mg/m$^3$<br>(vacated) TWA: 1000 ppm<br>(vacated) TWA: 1900 mg/m$^3$ | IDLH: 3300 ppm 10% LEL<br>TWA: 1000 ppm<br>TWA: 1900 mg/m$^3$ |
| n-Butyl acetate<br>123-86-4 | STEL: 200 ppm<br>TWA: 150 ppm | TWA: 150 ppm<br>TWA: 710 mg/m$^3$<br>(vacated) TWA: 150 ppm<br>(vacated) TWA: 710 mg/m$^3$<br>(vacated) STEL: 200 ppm<br>(vacated) STEL: 950 mg/m$^3$ | IDLH: 1700 ppm<br>TWA: 150 ppm<br>TWA: 710 mg/m$^3$<br>STEL: 200 ppm<br>STEL: 950 mg/m$^3$ |
| n-Butyl alcohol<br>71-36-3 | TWA: 20 ppm | TWA: 100 ppm<br>TWA: 300 mg/m$^3$<br>(vacated) S*<br>(vacated) Ceiling: 50 ppm<br>(vacated) Ceiling: 150 mg/m$^3$ | IDLH: 1400 ppm<br>Ceiling: 50 ppm<br>Ceiling: 150 mg/m$^3$ |
| Diacetone alcohol<br>123-42-2 | TWA: 50 ppm | TWA: 50 ppm<br>TWA: 240 mg/m$^3$<br>(vacated) TWA: 50 ppm<br>(vacated) TWA: 240 mg/m$^3$ | IDLH: 1800 ppm<br>TWA: 50 ppm<br>TWA: 240 mg/m$^3$ |
| Isopropyl alcohol<br>67-63-0 | STEL: 400 ppm<br>TWA: 200 ppm | TWA: 400 ppm<br>TWA: 980 mg/m$^3$<br>(vacated) TWA: 400 ppm<br>(vacated) TWA: 980 mg/m$^3$<br>(vacated) STEL: 500 ppm<br>(vacated) STEL: 1225 mg/m$^3$ | IDLH: 2000 ppm 10% LEL<br>TWA: 980 mg/m$^3$<br>TWA: 400 ppm<br>STEL: 500 ppm<br>STEL: 1225 mg/m$^3$ |
| n-Propyl acetate<br>109-60-4 | STEL: 250 ppm<br>TWA: 200 ppm | TWA: 200 ppm<br>TWA: 840 mg/m$^3$<br>(vacated) TWA: 200 ppm<br>(vacated) TWA: 840 mg/m$^3$<br>(vacated) STEL: 250 ppm<br>(vacated) STEL: 1050 mg/m$^3$ | IDLH: 1700 ppm<br>TWA: 200 ppm<br>TWA: 840 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 1050 mg/m$^3$ |
| Triphenyl phosphate<br>115-86-6 | TWA: 3 mg/m$^3$ | TWA: 3 mg/m$^3$<br>(vacated) TWA: 3 mg/m$^3$ | IDLH: 1000 mg/m$^3$<br>TWA: 3 mg/m$^3$ |

*Immediately Dangerous to Life or Health. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH:*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Measures**
Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** None required under normal usage. If splashes are likely to occur, wear: Chemical splash goggles.

**Skin and Body Protection** Chemical resistant gloves

**Respiratory Protection** None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hygiene Measures** When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State** | Liquid | **Appearance** | Red, Blue, Black Color: Thin viscosity, |
| **Odor** | Sweet, Solvent | **Odor Threshold** | No information available |

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH** | No data available | None known |
| **Melting Point/Range** | No data available | None known |
| **Boiling Point/Boiling Range** | 76.667-125 °C / 170-257 °F | None known |
| **Flash Point** | 11.667 °C / 53 °F | None known |
| **Evaporation rate** | < 1 (BuAc = 1) | BuAc = 1 |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limits in Air** | | |
| **upper flammability limit** | 19.0 | |
| **lower flammability limit** | 1.40 | |
| **Vapor Pressure** | No data available | None known |
| **Vapor Density** | > 1 (air = 1) | None known |
| **Specific Gravity** | No data available. | None known |
| **Water Solubility** | Negligible | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition Temperature** | No data available | None known |
| **Decomposition Temperature** | No data available | None known |
| **Viscosity** | No data available | None known |

**Flammable Properties** HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

**Explosive Properties** No data available
**Oxidizing Properties** No data available

**Other information**

**VOC Content (%)**
8706 Dk Blue/Steel Blue: 93.24%
8705 Red/Steel Red: 92.46%
8749 Black: 87.21%

**VOC (g/l)**
8706 Dk Blue/Steel Blue: 790 g/L
8705 Red/Steel Red: 795 g/L
8749 Black: 753 g/L

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks. Incompatible products.

**Incompatible materials**

Strong oxidizing agents. Strong acids. Strong reducing agents. Strong alkalis.

**Hazardous decomposition products**

Carbon monoxide (CO). Carbon dioxide ($CO_2$). Soot.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system. May cause drowsiness and dizziness.

**Eye Contact** Irritating to eyes. Causes serious eye damage.

**Skin Contact** Causes skin irritation.

**Ingestion** May be harmful if swallowed. Ingestion may cause nausea and vomiting.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Ethanol | = 7060 mg/kg ( Rat ) | - | = 124.7 mg/L ( Rat ) 4 h |
| n-Butyl acetate | = 10768 mg/kg ( Rat ) | > 17600 mg/kg ( Rabbit ) | = 391 ppm ( Rat ) 4 h |
| n-Butyl alcohol | = 790 mg/kg ( Rat ) | = 3400 mg/kg ( Rabbit ) | = 8000 ppm ( Rat ) 4 h |
| Diacetone alcohol | = 4 g/kg ( Rat ) | = 13500 mg/kg ( Rabbit ) | - |
| Isopropyl alcohol | = 4396 mg/kg ( Rat ) | 12800 mg/kg ( Rat )<br>12870 mg/kg ( Rabbit ) | 72.6 mg/L ( Rat ) 4 h |
| n-Propyl acetate | = 9370 mg/kg ( Rat ) | > 17760 mg/kg ( Rabbit ) | - |
| Triphenyl phosphate | = 3500 mg/kg ( Rat ) | > 7900 mg/kg ( Rabbit ) | - |
| Basic Green 4 | = 275 mg/kg ( Rat ) | - | - |

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage. The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Ethanol | A3 | Group 1 | Known | X |
| Isopropyl alcohol | | Group 3 | | X |

**ACGIH: (American Conference of Governmental Industrial Hygienists)**
A3 - Animal Carcinogen
**IARC: (International Agency for Research on Cancer)**
Group 1 - Carcinogenic to Humans
Group 3: Not Classifiable as to its Carcinogenicity to Humans
**NTP: (National Toxicity Program)**
Known - Known Carcinogen
**OSHA: (Occupational Safety & Health Administration)**
X - Present

**Reproductive Toxicity** May damage fertility or the unborn child

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** Avoid repeated exposure. Contains a known or suspected reproductive toxin. May cause adverse liver effects. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage. May cause adverse effects on the bone marrow and blood-forming system.

**Target Organ Effects** Respiratory system. Eyes. Skin. Central nervous system (CNS).

**Aspiration Hazard** No information available.

**Numerical measures of toxicity - Product**

*The following values are calculated based on chapter 3.1 of the GHS document:*

**LD50 Oral** 2741 mg/kg; Acute toxicity estimate
**LD50 Dermal** 17753 mg/kg; Acute toxicity estimate
**Inhalation**
**dust/mist** 33.1 mg/L; Acute toxicity estimate
**Vapor** 133.3 mg/L; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|---|---|---|---|
| Ethanol 64-17-5 | | LC50 96 h: 12.0 - 16.0 mL/L static (Oncorhynchus mykiss) LC50 96 h: > 100 mg/L static (Pimephales promelas) LC50 96 h: 13400 - 15100 mg/L flow-through (Pimephales promelas) | EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min | LC50 48 h: 9268 - 14221 mg/L (Daphnia magna) EC50 24 h: = 10800 mg/L (Daphnia magna) EC50 48 h: = 2 mg/L Static (Daphnia magna) |
| n-Butyl acetate 123-86-4 | EC50 72 h: = 674.7 mg/L (Desmodesmus subspicatus) | LC50 96 h: 17 - 19 mg/L flow-through (Pimephales promelas) LC50 96 h: = 100 mg/L static (Lepomis macrochirus) LC50 96 h: = 62 mg/L static (Leuciscus idus) | EC50 = 70.0 mg/L 5 min EC50 = 82.2 mg/L 15 min EC50 = 959 mg/L 18 h EC50 = 98.9 mg/L 30 min | EC50 24 h: = 72.8 mg/L (Daphnia magna) |
| n-Butyl alcohol 71-36-3 | EC50 96 h: > 500 mg/L (Desmodesmus subspicatus) EC50 72 h: > 500 mg/L (Desmodesmus subspicatus) | LC50 96 h: 1730 - 1910 mg/L static (Pimephales promelas) LC50 96 h: = 1740 mg/L flow-through (Pimephales promelas) LC50 96 h: 100000 - 500000 µg/L static (Lepomis macrochirus) LC50 96 h: = 1910000 µg/L static (Pimephales promelas) | EC50 = 2041.4 mg/L 5 min EC50 = 2186 mg/L 30 min EC50 = 3980 mg/L 24 h EC50 = 4400 mg/L 17 h | EC50 48 h: = 1983 mg/L (Daphnia magna) EC50 48 h: 1897 - 2072 mg/L Static (Daphnia magna) |
| Diacetone alcohol 123-42-2 | | LC50 96 h: = 420 mg/L static (Lepomis macrochirus) LC50 96 h: = 420 mg/L (Lepomis macrochirus) | | EC50 24 h: = 8750 mg/L (Daphnia magna) |
| Isopropyl alcohol 67-63-0 | EC50 96 h: > 1000 mg/L (Desmodesmus subspicatus) EC50 72 h: > 1000 mg/L (Desmodesmus subspicatus) | LC50 96 h: = 11130 mg/L static (Pimephales promelas) LC50 96 h: = 9640 mg/L flow-through (Pimephales promelas) LC50 96 h: > 1400000 µg/L (Lepomis macrochirus) | | EC50 48 h: = 13299 mg/L (Daphnia magna) |
| n-Propyl acetate 109-60-4 | | LC50 96 h: 56-64 mg/L flow-through (Pimephales promelas) LC50 96 h: 56-64 mg/L static (Pimephales promelas) | | EC50 24 h: = 318 mg/L (Daphnia magna) |
| Triphenyl phosphate 115-86-6 | EC50 96 h: 0.6 - 4 mg/L static (Pseudokirchneriella subcapitata) | LC50 96 h: 0.28 - 0.5 mg/L static (Oncorhynchus mykiss) LC50 96 h: 0.81 - 0.94 mg/L flow-through (Pimephales promelas) LC50 96 h: 0.53 - 0.8 mg/L static (Pimephales promelas) LC50 96 h: 0.47 - 1.04 mg/L static (Lepomis macrochirus) LC50 96 h: = 1.2 mg/L static (Oryzias latipes) | | EC50 48 h: 0.86 - 1.2 mg/L (Daphnia magna) |

**Persistence and Degradability** No information available.

**Bioaccumulation**

| Chemical Name | Log Pow |
|---|---|
| Ethanol | -0.32 |
| n-Butyl acetate | 1.81 |
| n-Butyl alcohol | 0.785 |
| Diacetone alcohol | 1.03 |
| Isopropyl alcohol | 0.05 |

**Other Adverse Effects**
No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with local regulations.

**Contaminated Packaging** Do not re-use empty containers.

**US EPA Waste Number** D001
U031

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|
| n-Butyl alcohol - 71-36-3 | | Included in waste stream: F039 | | U031 |

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste |
|---|---|
| Ethanol | Toxic<br>Ignitable |
| n-Butyl acetate | Toxic |
| n-Butyl alcohol | Toxic |
| Isopropyl alcohol | Toxic<br>Ignitable |
| Nitrocellulose | Ignitable<br>Reactive |
| n-Propyl acetate | Toxic<br>Ignitable |
| Xanthylium,9-(2-carboxyphenyl)-3,6-bis(diethyl amino)-, hydrogenbis[3-[(4,5-dihydro-3-methyl-5... | Toxic<br>Corrosive<br>Ignitable |

## 14. TRANSPORT INFORMATION

**DOT**

**UN-Number** UN1263
**Proper shipping name** Paint
**Hazard Class** 3
**Packing Group** II
**Reportable Quantity (RQ)** n-Butyl acetate: RQ kg= 5127.74, 1-Butanol: RQ kg= 13791.68
**Marine Pollutant** This product contains a chemical which is listed as a severe marine pollutant according to DOT.
**Description** UN1263, Paint, 3, II, RQ
**Emergency Response Guide Number** 128

**TDG**

**UN-Number** UN1263
**Proper Shipping Name** Paint
**Hazard Class** 3
**Packing Group** II

| | |
|---|---|
| **Marine Pollutant** | This product contains a chemical which is listed as a severe marine pollutant according to TDG. |
| **Description** | UN1263, Paint, 3, II |

**MEX**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Description** | UN1263, Paint, 3, II |

**ICAO**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper shipping name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Description** | UN1263, Paint, 3, II |

**IATA**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **ERG Code** | 3L |
| **Description** | UN1263, Paint, 3, II |

**IMDG/IMO**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **EmS No.** | F-E, S-E |
| **Marine Pollutant** | This product contains a chemical which is listed as a severe marine pollutant according to IMDG/IMO |
| **Description** | UN1263, Paint, 3, II, (11.667°C c.c.) |

**RID**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Classification Code** | F1 |
| **Description** | UN1263, Paint, 3, II |

**ADR**

| | |
|---|---|
| **UN-Number** | UN1263 |
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Classification Code** | F1 |
| **Tunnel Restriction Code** | (D/E) |
| **Description** | UN1263, Paint, 3, II, (D/E) |
| **ADR/RID-Labels** | 3 |

**ADN**

| | |
|---|---|
| **Proper Shipping Name** | Paint |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Classification Code** | F1 |

| | |
|---|---|
| **Special Provisions** | 163, 640C, 650 |
| **Description** | UN1263, Paint, 3, II |
| **Limited Quantity** | 5 L |
| **Ventilation** | VE01 |

## 15. REGULATORY INFORMATION

### International Inventories

| | |
|---|---|
| **TSCA** | Complies |

### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| n-Butyl alcohol | 71-36-3 | 16.4592 | 1.0 |
| Isopropyl alcohol | 67-63-0 | 3.9715 | 1.0 |

### SARA 311/312 Hazard Categories

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| n-Butyl acetate | 5000 lb | | | X |

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---|---|---|---|
| n-Butyl acetate | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |
| n-Butyl alcohol | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

### U.S. State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals: Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

| Chemical Name | CAS-No | California Prop. 65 |
|---|---|---|
| Ethanol | 64-17-5 | Developmental |
| Michler`s ketone | 90-94-8 | Carcinogen |

### U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Ethanol | X | X | X | | |
| n-Butyl acetate | X | X | X | | X |
| n-Butyl alcohol | X | X | X | | X |
| Diacetone alcohol | X | X | X | | X |
| Isopropyl alcohol | X | X | X | | X |
| Nitrocellulose | X | X | X | | X |
| n-Propyl acetate | X | X | X | | X |
| Triphenyl phosphate | X | X | X | | X |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health Hazard** | 2 | **Flammability** | 3 | **Instability** 0 | **Physical and Chemical Hazards** | - |
| **HMIS** | **Health Hazard** | 2 | **Flammability** | 3 | **Physical Hazard** 0 | **Personal Protection** | X |

**Prepared By**
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Issuing Date** 09-Apr-2014
**Revision Date** 08-May-2015
**Revision Note** Initial Release.

**General Disclaimer**

**The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# Material Safety Data Sheet



## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ Bondo Red Cream Hardener 307, 913, 913C, 913ES, 928, 928C, 9307, 7653079, 810505D, 510506D, 810507D
**MANUFACTURER:** 3M
**DIVISION:** Automotive Aftermarket

**ADDRESS:** 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 09/21/09
**Supercedes Date:** 09/21/09

**Document Group:** 24-2136-0

**Product Use:**
Intended Use: Automotive
Specific Use: Catalyst for Automotive Body Fillers

## SECTION 2: INGREDIENTS

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| BENZOYL PEROXIDE | 94-36-0 | 30 - 60 |
| WATER | 7732-18-5 | 10 - 30 |
| BENZOIC ACID, C9-11-BRANCHED ALKYL ESTERS | 131298-44-7 | 10 - 20 |
| ZINC STEARATE | 557-05-1 | 3 - 7 |
| OXIRANE, POLYMER WITH METHYLOXIRANE, MONOBUTYL ETHER | 9038-95-3 | 1 - 5 |
| CALCIUM SULFATE | 7778-18-9 | 1 - 5 |
| IRON OXIDE (FE2O3) | 1309-37-1 | 1 - 5 |

## SECTION 3: HAZARDS IDENTIFICATION

### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Viscous
**Odor, Color, Grade:** Red paste with slight ester odor

**General Physical Form:** Solid
**Immediate health, physical, and environmental hazards:** Closed containers exposed to heat from fire may build pressure and explode. Dust clouds of this material in combination with an ignition source may be explosive. May cause allergic skin reaction.

## 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Inhalation:**
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

**Target Organ Effects:**
Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

# SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

| | |
|---|---|
| **Autoignition temperature** | *No Data Available* |
| **Flash Point** | *Not Applicable* |
| **Flammable Limits - LEL** | *Not Applicable* |
| **Flammable Limits - UEL** | *Not Applicable* |

### 5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).
Water from a safe distance - preferably with a fog nozzle. In case of small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective.

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Closed containers exposed to heat from fire may build pressure and explode. Dust clouds of this material in combination with an ignition source may be explosive. Fire hazard increases when material becomes dry. Part of the oxygen for combustion is supplied by the peroxide itself.

**Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.**

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:**
Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.
Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible. Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill.

Contain spill. Collect as much of the spilled material as possible using non-sparking tools. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid eye contact with dust or airborne particles.

### 7.2 STORAGE

Store away from heat. Store out of direct sunlight. Keep container tightly closed. Do not heat under confinement to avoid risk of explosion Storage at elevated temperatures will shorten shelf life.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust for cutting, grinding, sanding or machining. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.
The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

#### 8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.
Gloves made from the following material(s) are recommended: Polyethylene/Ethylene Vinyl Alcohol. Use an additional glove (e.g. supported PVC or Nitrile) over the PE/EVAL glove, and change the over-glove frequently.

#### 8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining.
Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges and P95 particulate prefilters.
Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

#### 8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

### 8.3 EXPOSURE GUIDELINES

| Ingredient | Authority | Type | Limit | Additional Information |
|---|---|---|---|---|
| BENZOYL PEROXIDE | ACGIH | TWA | 5 mg/m3 | Table A4 |
| BENZOYL PEROXIDE | OSHA | TWA | 5 mg/m3 | Table Z-1 |
| CALCIUM SULFATE | ACGIH | TWA, inhalable fraction | 10 mg/m3 | |
| CALCIUM SULFATE | OSHA | TWA, respirable | 5 mg/m3 | Table Z-1 |
| CALCIUM SULFATE | OSHA | TWA, as total dust | 15 mg/m3 | Table Z-1 |
| IRON OXIDE (FE2O3) | ACGIH | TWA, respirable | 5 mg/m3 | Table A4 |
| IRON OXIDE (FE2O3) | OSHA | TWA, as fume | 10 mg/m3 | Table Z-1A |
| STEARATES | ACGIH | TWA, as total dust | 10 mg/m3 | Table A4 |
| ZINC STEARATE | ACGIH | TWA | 10 mg/m3 | |
| ZINC STEARATE | ACGIH | STEL | 20 mg/m3 | |
| ZINC STEARATE | OSHA | TWA, respirable | 5 mg/m3 | Table Z-1 |
| ZINC STEARATE | OSHA | TWA, Vacated, as dust | 10 mg/m3 | |
| ZINC STEARATE | OSHA | TWA, as total dust | 15 mg/m3 | Table Z-1 |

VAC Vacated PEL:Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

SOURCE OF EXPOSURE LIMIT DATA:
ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Specific Physical Form:** | Viscous |
| **Odor, Color, Grade:** | Red paste with slight ester odor |
| **General Physical Form:** | Solid |
| **Autoignition temperature** | *No Data Available* |
| **Flash Point** | *Not Applicable* |
| **Flammable Limits - LEL** | *Not Applicable* |
| **Flammable Limits - UEL** | *Not Applicable* |
| **Boiling point** | *No Data Available* |
| **Density** | *No Data Available* |
| **Vapor Density** | *Not Applicable* |
| **Vapor Pressure** | *Not Applicable* |
| **Specific Gravity** | 1.2 [@ 25 ºC] [*Ref Std:* WATER=1] |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Solubility in Water** | Negligible |
| **Evaporation rate** | *Not Applicable* |
| **Hazardous Air Pollutants** | 0 % weight |
| **Volatile Organic Compounds** | 0 lb/gal [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* excluding exempt compounds] |
| **Kow - Oct/Water partition coef** | *No Data Available* |
| **Percent volatile** | 20 % [*Details:* Water is the volatile component] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **Viscosity** | *No Data Available* |

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable. Stable unless exposed to heat, flames and drying conditions.

**Materials and Conditions to Avoid:**
**10.1 Conditions to avoid**
Heat
**10.2 Materials to avoid**
Accelerators

Additional Information: Storage at elevated temperatures will shorten shelf life.

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

| Substance | Condition |
|---|---|
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |
| Toxic Vapor, Gas, Particulate | Not Specified |

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Not determined.

### CHEMICAL FATE INFORMATION

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Incinerate in a permitted hazardous waste incinerator in the presence of a combustible material. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

**Since regulations vary, consult applicable regulations or authorities before disposal.**

## SECTION 14:TRANSPORT INFORMATION

**ID Number(s):**
LB-K100-0415-4, LB-K100-0415-5, LB-K100-0415-6, LB-K100-0415-7, LB-K100-0540-4, 60-4550-4812-8, 60-4550-4999-3, 70-0080-0037-7, 70-0080-0039-3, 70-0080-0147-4, 70-0080-0164-9, 70-0080-0172-2, 70-0080-0173-0, 70-0080-0174-8, 70-0080-0704-2, 70-0080-0705-9, 70-0080-0706-7

**Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.**

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS
Contact 3M for more information.

**311/312 Hazard Categories:**
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| ZINC STEARATE (ZINC COMPOUNDS) | 557-05-1 | 3 - 7 |
| BENZOYL PEROXIDE | 94-36-0 | 30 - 60 |

### STATE REGULATIONS
Contact 3M for more information.

### CHEMICAL INVENTORIES
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### INTERNATIONAL REGULATIONS
Contact 3M for more information.

**WHMIS:** Hazardous

**This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: OTHER INFORMATION

**NFPA Hazard Classification**

**Health:** 2 **Flammability:** 1 **Reactivity:** 1 **Special Hazards:** Oxidizer

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:
Section 6: Release measures information was deleted.
Section 10: Materials and conditions to avoid physical property was deleted.
Section 9: Property description for optional properties was modified.
Section 14: ID Number(s) Template 1 was modified.
10.1 Conditions to avoid was added.
10.2 Materials to avoid was added.
Section 6: Release measures information was added.
Section 6: Release measures information was added.
Section 6: Release measures information was added.
Section 10: Materials to avoid physical property was added.
Section 10: Conditions to avoid physical property was added.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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**3M MSDSs are available at www.3M.com**

Brillianize®

BRILLIANIZE, INC.
Safety Data Sheet


Version 4.0
Rev. Date: 13 Jul 2018

BRILLIANIZE, KleenMaster Products

## 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

| Product Name: | BRILLIANIZE® |
|---|---|
| Identified uses: | Cleaner for all hard shiny surfaces. Glass, plastic and metal. |
| Uses advised against: | None known. |
| | |
| Manufacturer or supplier's details | |
| Company name of supplier: | Brillianize, Inc. |
| Address: | 4952 Industrial Way<br>Benicia, CA 94510 |
| Telephone: | (707) 751-0656 |
| Emergency Phone: | (707) 751-0656 |
| Email address (SDS): | customerservice@brillianize.com |

## 2. HAZARDS IDENTIFICATION

**GHS Classification**

Based on evaluation of currently available data, this mixture is not classifiable as hazardous.

| | |
|---|---|
| **Signal word:** | N/A |
| **Hazard phrases:** | No phrases apply. |
| **Precaution phrases:** | No phrases apply. |

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

GHS Classification: Mixture

Chemical characterization: Polysiloxane emulsion

| Name | CAS-No. | Conc. (% w/w) |
|---|---|---|
| Water | 7732-18-5 | 99.1% |
| Proprietary Ingredient 1 | Proprietary | <1.0% |
| Proprietary Ingredient 2 | Proprietary | <1.0% |

Proprietary formulation: No hazardous ingredients above 1% or carcinogens above 0.1%. See section 11.

## 4. FIRST AID MEASURES

| | |
|---|---|
| Eyes: | Flush with water for 15 minutes. |
| Skin: | No first aid should be needed. |
| Inhalation: | No first aid should be needed. Remove to fresh air. |
| Ingestion: | Non-toxic. Give several glasses of water to dilute. |
| Comments: | Treat according to person's condition and specifics of exposure. |

## 5. FIRE-FIGHTING AND EXPLOSION DATA

| | |
|---|---|
| Extinguisher media: | Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials. |
| Flammable limits in air % by volume: | Lower N/A, Upper N/A |
| Auto ignition temperature: | N/A |
| Unusual fire and explosion hazards: | None known |
| Special fire fighting measures: | As with all fires, evacuate personnel to a safe area. Fire fighters should use self-contained breathing equipment and protective clothing. |

## 6. ACCIDENTAL RELEASE MEASURES

Containment/clean up: Clean up remaining materials with a suitable absorbent. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. You will need to determine which federal, state and local laws and regulations are applicable. Section 15 of this MSDS provides information regarding certain federal and state requirements. See section 8 for personal protective equipment for spills.

## 7. HANDLING AND STORAGE

Protect from freezing. Use with adequate ventilation. Avoid eye contact. Keep container closed. Internal consumption not recommended. Avoid spills on hard surfaces, spilled material, even in small quantities, may present a slip hazard.
Use reasonable care and store away from oxidizing materials.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

| | |
|---|---|
| Respiratory Protection: | None required. |
| Ventilation: | Ventilation should be used to maintain exposure below the PEL and TLV. |
| Protective Gloves: | Not required, rubber or vinyl gloves can be used if employees experience skin irritation. Polyvinylchloride. Silver Shield®. 4H®. |
| Eye Protection: | Safety goggles should be worn when splash hazards are present. |

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com).

## 9. PHSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical Form: | Liquid |
| Color: | White |
| Odor: | Some odor |
| pH: | 7 |
| Specific gravity@ 25° C: | 1 |
| Viscosity: | Not determined |
| Freezing/Melting Point: | 0° C (32° F) |
| Boiling point: | > 65°C |
| Flash point: | >100°C (closed cup) |
| Vapor pressure @ 25° C: | Not determined |
| Solubility in water: | Highly soluble |
| Reactivity in water: | N/A |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Chemical Stability: | Stable |
| Hazardous polymerization: | Hazardous polymerization will not occur. |
| Conditions to avoid: | None |
| Hazardous decomposition products: | Silicone dioxide, carbon dioxide and traces of incompletely burned carbon products. |
| Incompatible Materials to avoid: | Oxidizing agents. |

## 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure.
Inhalation, skin contact, ingestion, eye contact

| | |
|---|---|
| Acute oral toxicity: | LD50: [rat] – Route: oral; dose: >90ml/kg |
| Acute inhalation toxicity: | LC50: Not available |
| Acute dermal toxicity: | Assessment: The substance or mixture has no acute dermal toxicity |
| Carcinogenity: | Not classified based on available information |
| IARC: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| OSHA: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| NTP: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| Environmental Fate and Distribution: | Complete information is not yet available. |
| Environmental Effects: | Complete information is not yet available. |
| Fate and Effects in Waste Water Treatment Plants: | Complete information is not yet available. |

Ecotoxicity Classification Criteria

| Hazard Parameters (LC50 or EC50) | High | Medium | Low |
|---|---|---|---|
| Acute Aquatic Toxicity (mg/L) | ≤1 | >1 and ≤100 | >100 |
| Acute Terrestrial Toxicity | ≤100 | >100 and ≤ 2000 | >2000 |

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.
This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above.

## 13. DISPOSAL CONSIDERATIONS

**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No.
State of local laws may impose additional regulatory requirements regarding disposal.

## 14. TRANSPORTATION INFORMATION

**Domestic regulation**
**DOT Road Shipment Information (49 CFR 172.101)**
Not regulated as dangerous good.

**International regulation**
**Ocean Shipment (IMDG)**
Not regulated as dangerous good.

**Air Shipment (IATA-DGR)**
Not regulated as dangerous good.

**UNRTDG**
Not regulated as a dangerous good.

## 15. REGULATORY INFORMATION

**EPA SARA Title III Chemical Listings**
**Section 302 Extremely Hazardous Substances (40 CFR 355)**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
**Section 304 CERCLA Hazardous Substances (40 CFR 302)**
Calculated reportable quantity does not exceed reasonably attainable upper limit.
**Section 313 Toxic Chemicals (40 CFR 370)**
None present or none present in regulated quantities. This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

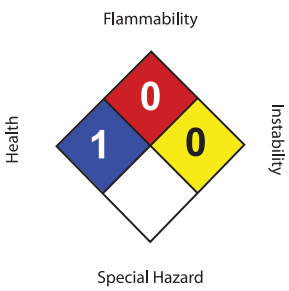
**The ingredients of this product are reported in the following inventories:**

| | |
|---|---|
| NZIoC : | All ingredients listed or exempt. |
| AICS : | All ingredients listed or exempt. |
| IECSC : | All ingredients listed or exempt. |
| ENCS/ISHL : | All components are listed on ENCS/ISHL or exempted from inventory listing. |
| PICCS : | All ingredients listed or exempt. |
| TSCA : | All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances. |
| KECI : | All ingredients listed, exempt or notified. |

**Inventories**
AICS (Australia), IECSC (China), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

## 16. OTHER INFORMATION - SPECIAL PRECAUTIONS

NFPA:




HMIS III:

| | |
|---|---|
| Health | 1 |
| Fire | 0 |
| Physical Hazard | 0 |
| Personal Protection | A |

0 = Not significant, 1 = Slight,
2 = Moderate, 3 = High,
4 = Extreme, * = Chronic
A = Safety glasses

California Proposition 65: None of the chemicals used in manufacturing the mixture know as Brillianize is listed in the 'Chemicals Considered or Listed Under Proposition 65' database.

IPA free: This mixture contains no isopropyl alcohol.

Handling and Storage: Keep from freezing. This material should be handled and stored per label and other instructions to ensure product integrity. Do not take internally.

Other precautions: Exercise care in using this material with any pressurized systems offering potential for eye or skin injection. Avoid spills on hard surfaces, spilled material, even in small quantities, may present a slip hazard.

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

N/A = Not Applicable
N/R = Not Regulated
N/E = Not Established
PEL = Permissible Exposure Level.
TLV = Threshold Limit Values
® indicates Registered Trademark.
Date: 13 Jul 2018

# Vacuum Pumps and Systems

Busch LLC, 516 Viking Drive, Virginia Beach, VA 23452

## MATERIAL SAFETY DATA SHEET

### SECTION I - PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product: | Busch R 590 Vacuum Pump Oil | Emergency Telephone No. |
| Manufacturer: | Busch LLC | Chemtrec: (800) 424-9300 |
| Address: | 516 Viking Drive | Non-emergency Telephone No. |
| | Virginia Beach, VA 23452 | Busch LLC (757) 463-7800 |
| CAS Number: | Not applicable for mixtures. | |
| Synonyms: | None | |
| Generic Chemical | Mixture | |
| Product Type: | Multipurpose | |
| Preparation/Revision Date: | 20 July, 2011 | |

### SECTION II – HAZARDS IDENTIFICATION

| | |
|---|---|
| Appearance: | Clear to yellow liquid. |
| Odor: | Mild |
| Principal Hazards: | This material has no known health hazards. |

### SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| Hazardous Ingredients: | This material has no known hazards under applicable laws. |

### SECTION IV – FIRST AID MEASURES

| | |
|---|---|
| Eyes: | Flush with water at least 30 minutes. Get medical attention if eye irritation develops or persists. |
| Skin: | Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse. |
| Inhalation: | Remove exposed person to fresh air if adverse effects are observed. |
| Oral: | DO NOT INDUCE VOMITING. Get immediate medical attention. |
| Additional Information: | Note to physician: Treat symptomatically. |

### SECTION V - FIRE FIGHTING MEASURES

| | |
|---|---|
| Flash point: | 251 °C, 485.1 °F ASTM D 92 (Typical) |
| Extinguishing Media: | CO2, dry chemical, or foam. Water can be used to cool and protect exposed material. |
| Firefighting Procedures: | Recommend wearing self-contained breathing apparatus. |

Unusual Fire & Explosion Hazards: See Section 10 for additional information.

## SECTION VI – ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| Spill Procedures: | Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. |

## SECTION VII – HANDLING AND STORAGE

| | |
|---|---|
| Pumping Temperature: | Not determined. |
| Maximum Handling Temperature: | Not determined. |
| Handling Procedures: | Keep containers closed when not in use. Wash thoroughly after handling. Launder contaminated clothing before reuse. Empty container contains product residue which may exhibit hazards of product. Dispose of packaging or containers in accordance with local, regional, national and international regulations. |
| Maximum Storage Temperature: | Not determined. |
| Storage Procedures: | See Section 10 for incompatible materials. |
| Maximum Loading Temperature: | Not determined. |

## SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| Exposure Limits: | None established. |
| Other Exposure Limits: | Contains mineral oil. Under conditions which may generate mists, Observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter. |
| Engineering Controls: | Use with adequate ventilation. |
| Gloves Procedures: | Nitrile |
| Eye Protection: | Safety glasses. |
| Respiratory Protection: | Use NIOSH/MSHA approved respirator with a combination organic vapor and high efficient filter cartridge if recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space for other poorly ventilated areas and for large spill clean-up sites. |
| Clothing Recommendation: | Long sleeve shirt is recommended. Launder contaminated clothing before reuse. |

## SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Flash Point: | 251 °C, 485.1 °F ASTM D 92 (Typical) |
| Upper Flammable Limit: | Not determined. |
| Lower Flammable Limit: | Not determined. |
| Auto Ignition Point: | Not determined. |
| Explosion Data: | Material does not have explosive properties. |
| Vapor Pressure: | Not determined. |
| pH: | Not determined. |
| Specific Gravity: | 0.87 (20 °C) |
| Bulk Density: | Not determined |
| Water Solubility: | Insoluble |

| | |
|---|---|
| Percent Solid: | Not determined. |
| Percent Volatile: | Not determined. |
| Volatile Organic Compound: | Not determined. |
| Vapor Density: | Not determined. |
| Evaporation Rate: | Not determined. |
| Odor: | Mild |
| Appearance: | Clear to yellow liquid. |
| Viscosity: | Not determined. |
| Odor Threshold: | Not determined. |
| Boiling Point: | Not determined. |
| Pour Point Temperature: | Not determined. |
| Melting/Freezing Point: | Not determined. |
| | The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted. |

## SECTION X – STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | Material is normally stable at moderately elevated temperatures and pressures. |
| Decomposition Temperature: | Not determined. |
| Incompatibility: | Oxidizing agents. |
| Polymerization: | Will not occur. |
| Thermal Decomposition: | Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. |
| Conditions to Avoid: | Not determined. |

## SECTION XI – TOXICOLOGICAL INFORMATION

-- Acute Exposure --

| | |
|---|---|
| Eye Irritation: | Not expected to cause eye irritation. Based on data from components or similar materials. |
| Skin Irritation: | Not expected to be a primary skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying and cracking of the skin. |
| Respiratory Irritation: | If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials. |
| Dermal Toxicity: | The LD50 in rabbits is >2000 mg/Kg. Based on data from components or similar materials. |
| Inhalation Toxicity: | No data available to indicate product or components may be a toxic inhalation hazard. |
| Oral Toxicity: components | The LD50 in rats is >10,000 mg/Kg. Based on data from or similar materials. |
| Dermal Sensitization: | No data available to indicate product or components may be a skin sensitizer. |
| Inhalation Sensitization: | No data available to indicate product or components may be respiratory sensitizers. |

--Chronic Exposure--

| | |
|---|---|
| Chronic Toxicity: | No data available to indicate product or components present at greater than 1% are chronic health hazards. |
| Carcinogenicity: | This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test. |
| Mutagenicity: | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Reproductive Toxicity: | No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity. |
| Teratogenicity: | No data available to indicate product or any components contained at greater than 0.1% may cause birth defects. |

-- Additional Information –

| | |
|---|---|
| Other: | No other health hazards known. |

## SECTION XII - ECOLOGICAL INFORMATION

-- Environmental Toxicity --

| | |
|---|---|
| Freshwater fish Toxicity: | The acute LC50 is 100 – 1000 mg/L based on component data. |
| Freshwater Invertebrates Toxicity: | The acute EC50 is 100 – 1000 mg/L based on component data. |
| Algal Inhibition: | The acute EC50 is 100 – 1000 mg/L based on component data. |
| Saltwater Fish Toxicity: | Not determined. |
| Saltwater Invertebrates Toxicity: | Not determined. |
| Bacteria Toxicity: | The acute EC50 is 100 – 1000 ppm based on component data. |
| Miscellaneous Toxicity: | Not determined. |

-- Environmental Fate --

| | |
|---|---|
| Biodegradation: | At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data. |
| Bioaccumulation: | Less than 1.0% of the components potentially bioconcentrate, based on octanol/water coefficients. |
| Soil Mobility: | Not determined. |

## SECTION XIII - DISPOSAL CONSIDERATIONS

| | |
|---|---|
| Waste Disposal: | This material, if discarded, is not a hazardous waste under RCRA Regulation to CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. |

## SECTION XIV - TRANSPORT INFORMATION

| | |
|---|---|
| ICAO/IATAI: | Not regulated. |
| ICAO/IATA II: | Not regulated. |
| IMDG: | Not regulated. |
| IMDG EMS Fire: | Not applicable. |
| IMDG EMS Spill: | Not applicable. |

| | |
|---|---|
| IMDG MFAG: | Not applicable. |
| MARPOL Annex II: | Not determined. |
| USCG Compatibility: | Not determined. |
| U.S. DOT Bulk | Not regulated. |
| DOT NAERG: | Not applicable. |
| U.S. Dot (Intermediate): | Not regulated. |
| U.S. DOT Intermediate NAERG: | Not applicable. |
| U.S. DOT Non-Bulk: | Not regulated. |
| U.S. DOT Non-Bulk NAERG: | Not applicable. |
| Canada: | Not regulated. |
| Mexico: | Not regulated. |
| Bulk Quantity: | 85000 KG, 187391 lbs. |
| Intermediate Quantity: | 11000 KG, 24251 lbs. |
| Non-Bulk Quantity: | 400 KG, 882 lbs. |
| | Review classification requirements before shipping materials at elevated temperatures. |

## SECTION XV - REGULATORY INFORMATION

| | |
|---|---|
| USA: | All components of this material are on the US TSCA Inventory or are exempt. |
| Other TSCA Reg.: | None known. |
| EU: | All components are in compliance with the EC Seventh amendment Directive 92/32/EEC. |
| Japan: | All components are in compliance with the Chemical Substances Control Law of Japan. |
| Australia: | All components are in compliance with chemical notificaiton requirements in Australia. |
| New Zealand: | All components are in compliance with chemical notification requirements in New Zealand. |
| Canada: | All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List. |
| Switzerland: | All components are in compliance with the Environmentally Hazardous Substances ordinance in Switzerland. |
| Korea: | All components are in compliance in Korea. |
| Philippines: | All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969). |
| China: | All components of this product are listed on the Inventory of Existing Chemical Substances in China. |
| Taiwan: | All components of this product are listed on the Taiwan inventory. |

### --Other U.S. Federal Regulations --

| | |
|---|---|
| SARA Ext. Haz. Subst.: | This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list. |
| SARA Section 313: | This product does not contain greater than 1.0% for carcinogenic substance) of any chemical substances listed under SARA Section 313. |
| SARA 311 Classifications: | Acute Hazard No |

| | |
|---|---|
| Chronic Hazard | No |
| Fire Hazard | No |
| Reactivity Hazard | No |

CERCLA Hazardous Substances: None Known

-- State Regulations –

Cal. Prop. 65: This product does not intentionally contain any chemicals known by the State of California to cause cancer and/or birth defects. Moreover, we do not routinely analyze its products for impurities which may be such chemicals.

-- Product Registrations –

U.S. Fuel Registration: Not applicable
Finnish Registration Number: Not Registered
Swedish Registration Number: Not Registered
Norwegian Registration Number: Not Registered
Danish Registration Number: Not Registered
Swiss Registration Number: Not Registered
Italian Registration Number: Not Registered

-- Other / International –

Miscellaneous Regulatory Information: Not determined.

## SECTION XVI – OTHER INFORMATION

US NFPA Codes:

| Health | Fire | Reactivity | Special |
|---|---|---|---|
| 1 | 1 | 0 | N/E |

(N/E) – None established

HMIS Codes:

| Health | Fire | Reactivity |
|---|---|---|
| 0 | 1 | 0 |

Precautionary Labels: This material has no known health hazards.

Revision Indicators:

| | |
|---|---|
| Section: 4 Additional first aid measures | hanged: 8 April 2011 |
| Section: 4 Eyes first aid. | Changed: 8 April 2011 |
| Section: 4 Inhalation first aid. | Changed: 8 April 2011 |
| Section: 4 Oral first aid. | Changed: 8 April 2011 |
| Section: 4 Skin first aid. | Changed: 8 April 2011 |
| Section: 5 Flash point. | Changed: 8 April 2011 |
| Section: 5 Flash point. | Changed: 8 April 2011 |
| Section: 5 Flash point. | Changed: 8 April 2011 |
| Section: 5 Special firefighting procedures. | Changed: 20 July 2011 |
| Section: 5 Unusual Fire & explosion hazards. | Changed: 8 April 2011 |
| Section: 6 Spill procedures. | Changed: 8 April 2011 |
| Section: 7 Handling procedures. | Changed: 8 April 2011 |
| Section: 7 Storage procedures. | Changed: 8 April 2011 |
| Section: 8 Clothing recommendations. | Changed: 8 April 2011 |
| Section: 8 Eye protection. | Changed: 8 April 2011 |
| Section: 8 Ventilation procedures. | Changed: 8 April 2011 |
| Section: 9 Flash point. | Changed: 8 April 2011 |
| Section: 9 Flash point. | Changed: 8 April 2011 |
| Section: 9 Flash point. | Changed: 8 april 2011 |
| Section: 10 Polymerization. | Changed: 8 april 2011 |
| Section: 11 Chronic toxicity. | Changed: 8 April 2011 |
| Section: 11 Inhalation toxicity. | Changed: 8 April 2011 |

| | |
|---|---|
| Section: 11 Mutagencity. | Changed: 8 April 2011 |
| Section: 11 Other. | Changed: 8 April 2011 |
| Section: 11 Reproductive toxicity. | Changed: 8 April 2011 |
| Section: 11 Teratogenicity. | Changed: 8 April 2011 |
| Section: 13 Waste disposal. | Changed: 8 April 2011 |
| Section: 15 Taiwan | Changed: 20 July 2011 |

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability of any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

# SAFETY DATA SHEET

**FOR INDUSTRIAL USE ONLY**

**Cascophen(TM) RS-254D**

## Section 1. Product and company identification

| | | |
|---|---|---|
| **GHS product identifier** | : | Cascophen(TM) RS-254D |
| **MSDS Number** | : | 000000104091 |
| **Product type** | : | Resorcinol Formaldehyde Resin |
| **Material uses** | : | Wood Adhesives, Composites, Laminates or Related Board Products |

**Manufacturer/Supplier/Importer** : Hexion Inc.
180 East Broad Street
Columbus, Ohio
43215 USA

**Contact person** : 4information@hexion.com

**Telephone** : For additional health and safety or regulatory information, call 1 888 443 9466.

**Emergency telephone number** : For Emergency Medical Assistance
Call Health & Safety Information Services
1-866-303-6949

For Emergency Transportation Information
CHEMTREC US Domestic (800) 424-9300
CHEMTREC International (703) 527-3887
CANUTEC CA Domestic (613) 996-6666

Part of the CASCO® Brand of Adhesives and Resins from Hexion Inc.

## Section 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY:inhalation - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION - Category 1B
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [central nervous system (CNS), blood system] - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [thyroid, liver] - Category 1

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** :
H226 Flammable liquid and vapor.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H360F May damage fertility.
H360 May damage the unborn child.
H370 Causes damage to organs: (central nervous system (CNS), blood system)
H372 Causes damage to organs through prolonged or repeated exposure: (thyroid, liver)

**Precautionary statements**

**General** : Not applicable.

**Prevention** :
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves.
Wear eye or face protection.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use only outdoors or in a well-ventilated area.
Do not breathe vapor.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.

**Response** :
Get medical attention if you feel unwell.
IF exposed:
Call a POISON CENTER or physician.
**IF INHALED:**
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or physician if you feel unwell.
**IF ON SKIN (or hair):**
Take off immediately all contaminated clothing.
Rinse skin with water or shower.
**IF ON SKIN:**
Wash with plenty of soap and water.
If skin irritation or rash occurs:
Get medical attention.
**IF IN EYES:**
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists:
Get medical attention.

**Storage** : Store locked up.
Store in a well-ventilated place.
Keep cool.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % by weight | CAS number |
|---|---|---|
| Resorcinol | 12.5 - 15 | 108-46-3 |
| Ethanol | 5 - 7 | 64-17-5 |
| Methanol | 0.2 - 1 | 67-56-1 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**
**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If

material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first aid personnel** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use dry chemical, CO2, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through

spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and material for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see section 8 of SDS).Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.Avoid exposure - obtain special instructions before use.Avoid exposure during pregnancy.Do not handle until all safety precautions have been read and understood.Do not get in eyes or on skin or clothing.Do not breathe vapor or mist.Do not ingest.Use only with adequate ventilation.Wear appropriate respirator when ventilation is inadequate.Do not enter storage areas and confined spaces unless adequately ventilated.Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.Store and use away from heat, sparks, open flame or any other ignition source.Use explosion-proof electrical (ventilating, lighting and material handling) equipment.Use only non-sparking tools.Empty containers retain product residue and can be hazardous.Do not reuse container.Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and

equipment before transferring material. Follow US NFPA 30, "Flammable & Combustible Liquids Code," or other national, state and local codes on safe handling of flammable liquids. Train workers in the recognition and prevention of hazards associated with the storage, handling and transfer of flammable liquids in the plant. Store in an area designated for storage of flammable liquids (See NPFA 30, and OSHA 29 CFR 1910.106)

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Resorcinol | **NIOSH REL (1994-06-01)**<br>Time Weighted Average (TWA) 45 mg/m3 10 ppm<br>**Pollutant concentration that should not be exceeded during working hours and which workers are believed to be exposed during a period of 15 minutes maximum, without experiencing: a) irritation. b) chronic or irreversible tissue damage. c) dependent toxic effects of exposure rate. d) Narcosis of sufficient magnitude to increase susceptibility to accidents. e) The reduction of ability to get to safety by their own means.** 90 mg/m3 20 ppm<br>**ACGIH TLV (1996-05-18)**<br>Time Weighted Average (TWA) 45 mg/m3 10 ppm<br>**Short Term Exposure Limit (STEL)** 90 mg/m3 20 ppm |
| Ethanol | **ACGIH TLV (2008-01-01)**<br>Pollutant concentration that should not be exceeded during working hours and which workers are believed to be exposed during a period of 15 minutes maximum, without experiencing: a) irritation. b) chronic or irreversible tissue damage. c) dependent toxic effects of exposure rate. d) Narcosis of sufficient magnitude to increase susceptibility to accidents. e) The reduction of ability to get to safety by their own means. 1,880 mg/m3 1,000 ppm<br>**OSHA PEL (1993-06-30)**<br>Time Weighted Average (TWA) 1,900 mg/m3 1,000 ppm<br>**NIOSH REL (1994-06-01)**<br>Time Weighted Average (TWA) 1,900 mg/m3 1,000 ppm |

| | |
|---|---|
| Methanol | **ACGIH TLV (1994-09-01)**<br>Time Weighted Average (TWA) 262 mg/m3 200 ppm<br>**Short Term Exposure Limit (STEL)** 328 mg/m3 250 ppm<br>**OSHA PEL (1993-06-30)**<br>Time Weighted Average (TWA) 260 mg/m3 200 ppm<br>**NIOSH REL (1994-06-01)**<br>Time Weighted Average (TWA) 260 mg/m3 200 ppm<br>**Pollutant concentration that should not be exceeded during working hours and which workers are believed to be exposed during a period of 15 minutes maximum, without experiencing: a) irritation. b) chronic or irreversible tissue damage. c) dependent toxic effects of exposure rate. d) Narcosis of sufficient magnitude to increase susceptibility to accidents. e) The reduction of ability to get to safety by their own means.** 325 mg/m3 250 ppm |

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

| | | |
|---|---|---|
| **Hand protection** | : | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| **Body protection** | : | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product., When there is a risk of ignition from static electricity, wear anti-static protective clothing., For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. |
| **Other skin protection** | : | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| **Respiratory protection** | : | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

## Section 9. Physical and chemical properties

**Appearance**

| | | |
|---|---|---|
| **Physical state** | : | Liquid |
| **Color** | : | Reddish-brown |
| **Odor** | : | Slight alcoholic |
| **Odor threshold** | : | Not available |
| **pH** | : | 7.4 |
| **Melting point/ Freezing point** | : | 0 °C (32.00 °F) |
| **Boiling point** | : | 102 °C (215.60 °F) |
| **Flash point** | : | Pensky-Martens Closed Cup: 60 °C (140.00 °F) (ASTM D 93) |
| **Burning time** | : | Not available |
| **Burning rate** | : | Not available |
| **Evaporation rate** | : | 0.6 ((n-Butyl acetate=1)) |
| **Flammability (solid, gas)** | : | Not available |
| **Lower and upper explosive (flammable) limits** | : | **Lower:** Not available<br>**Upper:** Not available |
| **Vapor pressure** | : | 50 mm Hg @ 21 °C (69.80 °F) |
| **Vapor density** | : | Not applicable. |

| | | |
|---|---|---|
| **Relative density** | : | 1.1770 @ 21 °C (69.80 °F) |
| **Solubility** | : | Not available |
| **Solubility in water** | : | Slightly |
| **Partition coefficient: n-octanol/water** | : | Not available |
| **Auto-ignition temperature** | : | Not available |
| **Decomposition temperature** | : | Not available |
| **SADT** | : | Not available |
| **Viscosity** | : | **Dynamic:** 350 - 450 cPs<br>**Kinematic:** Not available |

**Other information**

*The SDS is not to be used as a specification sheet. For Specific technical information on the product listed above, a sales specification sheet should be obtained from your Hexion representative.*

## Section 10. Stability and reactivity

| | | |
|---|---|---|
| **Reactivity** | : | Normally stable, but will polymerize at high temperatures with some evolution of heat. |
| **Chemical stability** | : | The product is stable. |
| **Possibility of hazardous reactions** | : | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | : | Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| **Incompatible materials** | : | Reactive or incompatible with the following materials:<br>oxidizing materials<br>acids |
| **Hazardous decomposition products** | : | Note: Residual formaldehyde gas may be released from this product during processing. The amount and level will depend on local conditions of use. Formaldehyde gas is irritating to the eyes and upper respiratory tract and may aggravate existing respiratory conditions or allergies. OSHA has listed formaldehyde as a potential human carcinogen. See the OSHA formaldehyde standard 29 CFR 1910.1048 for further details. The International Agency for Research on Cancer (IARC) has classified formaldehyde as carcinogenic to humans. |

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Resorcinol | | | | |
| | LD50 Oral | Rat | 301 mg/kg | - |
| | LD50 Oral | Rat | 202 mg/kg | - |
| | LD50 Dermal | Rabbit | 3,360 mg/kg | - |
| Ethanol | | | | |
| | LD50 Oral | Rat | 7,000 mg/kg | - |
| | LC50 Inhalation | Rat | 125 mg/l | 4 h |
| Methanol | | | | |
| | LD50 Oral | Rat | 5,628 mg/kg | - |
| Cascophen(TM) RS-254D | | | | |
| | LD50 Oral | Rat | > 2,001 mg/kg | - |
| | LC50 Inhalation | Rat | > 21 mg/l | 4 h |
| | LC50 Inhalation | Rat | > 21 mg/l | 1 h |
| | LD50 Dermal | Rabbit | > 2,001 mg/kg | - |

**Conclusion/Summary** : Not available

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Resorcinol | Skin - Moderate irritant | Rabbit | | 24 hrs | - |
| | Skin - Severe irritant | Rabbit | | | - |
| | eyes - Severe irritant | Rabbit | | | - |
| Ethanol | Skin - Mild irritant | Rabbit | | | - |
| | Skin - Moderate irritant | Rabbit | | 24 hrs | - |
| | eyes - Severe irritant | Rabbit | | | - |
| | eyes - Mild irritant | Rabbit | | 24 hrs | - |
| | eyes - Moderate irritant | Rabbit | | 0.001 hrs | - |

**Conclusion/Summary**

**Skin** : 16 CFR Part 1500.41 Rabbit Slight Skin Irritant

**eyes** : 16 CFR Part 1500.42 Rabbit Severe Eye Irritant

**Respiratory** : Not available

**Sensitization**

**Conclusion/Summary**

**Skin** : Not available

**Respiratory** : Not available

**Mutagenicity**

**Conclusion/Summary** : Not available

**Carcinogenicity**

**Conclusion/Summary** : Not available

**Reproductive toxicity**

**Conclusion/Summary** : Not available

**Teratogenicity**

**Conclusion/Summary** : Not available

**Specific target organ toxicity (single exposure)**

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Resorcinol | Category 3<br>Category 1 | | Respiratory tract irritation<br>central nervous system (CNS)<br>blood system |
| Ethanol | Category 3<br><br>Category 1 | | Respiratory tract irritation<br>Narcotic effects<br>central nervous system (CNS) |
| Methanol | Category 3<br>Category 1<br>Category 2 | | Respiratory tract irritation<br>central nervous system (CNS)<br>optic nerve |

**Specific target organ toxicity (repeated exposure)**

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Resorcinol | Category 2<br>Category 1<br>Category 2 | | cardiovascular system<br>thyroid<br>Spleen<br>liver<br>kidneys |
| Ethanol | Category 1 | | liver |
| Methanol | Category 2 | | kidneys<br>liver<br>gastrointestinal tract<br>skin<br>respiratory tract |

**Aspiration hazard**

Not available

**Information on the likely routes of** : Not available

**exposure**

**Potential acute health effects**

| | | |
|---|---|---|
| **Eye contact** | : | Causes serious eye irritation. |
| **Inhalation** | : | Harmful if inhaled. |
| **Skin contact** | : | May cause an allergic skin reaction. |
| **Ingestion** | : | Irritating to mouth, throat and stomach. |

**Symptoms related to the physical, chemical and toxicological characteristics**

| | | |
|---|---|---|
| **Eye contact** | : | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |
| **Inhalation** | : | Adverse symptoms may include the following:<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |
| **Skin contact** | : | Adverse symptoms may include the following:<br>irritation<br>redness<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |
| **Ingestion** | : | Adverse symptoms may include the following:<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

| | | |
|---|---|---|
| **Potential immediate effects** | : | Not available |
| **Potential delayed effects** | : | Not available |

**Long term exposure**

| | | |
|---|---|---|
| **Potential immediate effects** | : | Not available |
| **Potential delayed effects** | : | Not available |

**Potential chronic health effects**

| | | |
|---|---|---|
| **Conclusion/Summary** | : | Not available |
| **General** | : | Causes damage to organs through prolonged or repeated exposure:<br>Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| **Carcinogenicity** | : | No known significant effects or critical hazards. |
| **Mutagenicity** | : | No known significant effects or critical hazards. |
| **Teratogenicity** | : | May damage the unborn child. |
| **Developmental effects** | : | No known significant effects or critical hazards. |
| **Fertility effects** | : | May damage fertility. |

**Numerical measures of toxicity**

**Acute toxicity estimates**

Not available

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| resorcinol | | | |
| | Acute LC50 > 100 mg/l Fresh water | Fish - Rainbow trout,donaldson trout | 96 h |
| | Acute LC50 40,000 µg/l Fresh water | Fish - Fathead minnow | 96 h |
| | Acute LC50 100,000 µg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| ethanol | | | |
| | Acute LC50 42,000 µg/l Fresh water | Fish - Rainbow trout,donaldson trout | 96 h |
| | Acute LC50 100 mg/l Fresh water | Fish - Fathead minnow | 96 h |
| | Acute EC50 2,000 µg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| | Acute EC50 100 mg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| | Acute EC50 20,000 mg/l Fresh water | Aquatic plants - Green Flagellate | 96 h |
| | Acute EC50 10,000 mg/l Fresh water | Aquatic plants - Algae | 96 h |
| | Acute EC50 10,000 mg/l Fresh water | Aquatic plants - Diatom | 96 h |
| | Chronic NOEC 0.375 mg/l Fresh water | Fish - Eastern mosquitofish | 84 d |
| | Chronic No observable effect concentration < 6,300 mg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| methanol | | | |
| | Acute EC50 13,000 mg/l Fresh water | Fish - Rainbow trout,donaldson trout | 4 d |

**Conclusion/Summary** : Not available

**Persistence/degradability**

**Conclusion/Summary** : Not available

**Bioaccumulative potential**

| Product/ingredient name | LogPow | BCF | Potential |
|---|---|---|---|
| Resorcinol | 0.8 | - | low |
| Ethanol | -0.35 | - | low |
| Methanol | -0.77 | - | low |

**Mobility in soil**

**Soil/water partition coefficient (KOC)** : Not available

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

**International transport regulations**

| Regulatory information | UN/NA number | Proper shipping name | Classes/*PG | Reportable Quantity (RQ) |
|---|---|---|---|---|
| **CFR** | 1866 | RESIN SOLUTION, flammable | Class 3 III | Resorcinol |
| **TDG** | 1866 | RESIN SOLUTION, flammable | Class 3 III | |
| **IMO/IMDG** | 1866 | RESIN SOLUTION, flammable | Class 3 III | Resorcinol |
| **IATA (Cargo)** | 1866 | RESIN SOLUTION, flammable | Class 3 III | Resorcinol |

*PG : Packing group

**Special precautions for user** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.'

# Section 15. Regulatory information

**United States**

**U.S. Federal regulations** : **United States - TSCA 12(b) - Chemical export notification:** None required.
**United States - TSCA 5(a)2 - Final significant new use rules:** Not listed
**United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed
**United States - TSCA 5(e) - Substances consent order:** Not listed

**California Prop. 65:** : WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer., WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|---|---|---|---|---|
| Methanol | No. | Yes. | No. | No. |
| Formaldehyde | Yes. | No. | 40 µg/day | No. |
| 2-Pentanone, 4-methyl- | Yes. | No. | No. | No. |

**United States inventory (TSCA 8b)** : All components are listed or exempted.

**Canada**

**WHMIS (Canada)** : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists**

**Canadian NPRI** : The following components are listed: Ethanol

**CEPA Toxic substances** : None required.

**International regulations**

**International lists** : **Australia inventory (AICS):** Not determined.
**Taiwan inventory (CSNN):** Not determined.
**Canada inventory:** All components are listed or exempted.
**Japan inventory:** Not determined.
**China inventory (IECSC):** Not determined.
**Korea inventory:** Not determined.
**New Zealand Inventory (NZIoC):** Not determined.
**Philippines inventory (PICCS):** Not determined.
**United States inventory (TSCA 8b):** All components are listed or exempted.

# Section 16. Other information

**Hazardous Material Information System III (U.S.A.) :**

| | | |
|---|---|---|
| **Health** | * | 2 |
| **Flammability** | | 2 |
| **Physical hazards** | | 0 |
| | | |

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**
**The customer is responsible for determining the PPE code for this material.**

**Full text of abbreviated H statements** : Not applicable.

**History**

**Date of printing** : 07/28/2015
**Date of issue/Date of revision** : 04/15/2015
**Date of previous issue** : 04/30/2013
**Version** : 5.0
**Prepared by** : Product Safety Stewardship
**Key to abbreviations** :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations
**References** : Not available

**Notice to reader**

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CIBA-GEIGY CORPORATION -- CGL 1320 RESIN -- 8040-00N017664

```
======================  Product Identification  ======================

Product ID:CGL 1320 RESIN
MSDS Date:12/09/1988
FSC:8040
NIIN:00N017664
MSDS Number: BLTBY
=== Responsible Party ===
Company Name:CIBA-GEIGY CORPORATION
Address:THREE SKYLINE DRIVE
City:HAWTHORNE
State:NY
ZIP:10532
Country:US
Info Phone Num:914-347-4700
Emergency Phone Num:800-888-8372
Preparer's Name:PETER HENIGE
CAGE:CIBAG
=== Contractor Identification ===
Company Name:CIBA SPECIALTY CHEMICALS CORPORATION
Address:4917 DAWN AVE
Box:City:EAST LANSING
State:MI
ZIP:48823-5691
Country:US
Phone:517-351-5900
CAGE:02684
Company Name:CIBA-GEIGY CORPORATION, FURANE PRODUCTS
Address:5121 SAN FERNANDO ROAD WEST
City:LOS ANGELES
State:CA
ZIP:90039
Country:US
Phone:818-247-6210
CAGE:CIBAG

=============  Composition/Information on Ingredients  =============

Ingred Name:BUTANE, 1,4-BIS(2,3-EPOXYPROPOXY)-;
    (1,4-DIGLYCIDYLOXYBUTANE)(BUTANEDIOL DIGLYCIDYL ETHER)
CAS:2425-79-8

Ingred Name:ALUMINUM
CAS:7429-90-5
RTECS #:BD0330000
OSHA PEL:15MG/M3 TDUST;5 RESP
ACGIH TLV:10MG/M3 METAL DUST

Ingred Name:GRAPHITE, NATURAL
CAS:7782-42-5
RTECS #:MD9659600
OSHA PEL:15 MPPCF RDUST
ACGIH TLV:2 MG/M3 RDUST; 9293

Ingred Name:ALUMINUM HYDROXIDE; (ALUMINUM OXIDE TRIHYDRATE)(HYDRATED
    ALUMINA)
CAS:21645-51-2
RTECS #:BD0940000
OSHA PEL:15 MG/M3 TDUST (AL)
ACGIH TLV:10 MG/M3 TDUST (AL)

Ingred Name:TETRAGLYCIDYLBIS(P-AMINOPHENYL)METHANE;
    (N,N,N'N'-TETRAGLYCIDYL BIS(PARA-AMINOPHENYL)METHANE)
CAS:28768-32-3

Ingred Name:BENTONITE (INORGANIC CLAY)
```

CAS:1302-78-9
RTECS #:CT9450000
OSHA PEL:15 MG/M3 DUST (MFR)
ACGIH TLV:10 MG/M3 DUST (MFR)

Ingred Name:CARBON BLACK
CAS:1333-86-4
RTECS #:FF5800000
OSHA PEL:3.5 MG/M3
ACGIH TLV:3.5 MG/M3

========== Hazards Identification ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:SKIN: SEVERE IRRITANT. EYE: IRRITANT.
MAY CAUSE SKIN BURNS AND ALLERGIC SKIN REACTION.
Explanation of Carcinogenicity:NOT RELEVANT.
Effects of Overexposure:SEE HEALTH HAZARDS.
Medical Cond Aggravated by Exposure:SKIN/EYE CONDITIONS.

========== First Aid Measures ==========

First Aid:EYES: IMMED FLUSH WITH WATER FOR AT LEAST 15 MIN. CALL PHYS.
SKIN: WASH WITH SOAP AND WATER. REMOVE CONTAMD CLOTHING AND LAUNDER
BEFORE REUSE. INGEST: IF CONSCIOUS, GIVE PLENTY OF WATER TO DRINK.
DO N OT INDUCE VOMIT. CALL PHYS. INHAL: REMOVE TO FRESH AIR. GIVE
O*2/ARTF RESP, IF NEEDED. CALL PHYS. REFERRAL TO MD IS RECOMMENDED
IF ANY QUESTION ABOUT THE SERIOUSNESS OF ANY INJURY.

========== Fire Fighting Measures ==========

Flash Point Method:PMCC
Flash Point:>250F,>121C
Extinguishing Media:CARON DIOXIDE, DRY CHEMICAL, FOAM.
Fire Fighting Procedures:USE NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE
EQUIPMENT .
Unusual Fire/Explosion Hazard:DECOMPOSITION AND COMBUSTION PRODUCTS MAY
BE TOXIC.

========== Accidental Release Measures ==========

Spill Release Procedures:REMOVE SPILLAGE BY ABSORBING IN ABSORBENT
MATERIAL. AVOID CONTACT.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:NUISANCE DUST MAY BE GENERATED WHEN
SANDING/SAWING CURED MATL. DANGER! CAUSES SEV SKIN IRRIT. CAUSES
EYE IRRIT. MAY CAUSE SKIN BURNS & ALLERGIC RXN.
Other Precautions:AVOID CONTACT WITH EYES, SKIN, OR CLOTHING. AVOID
PROLONGED OR REPEATED CONTACT WITH SKIN. WASH THOROUGLY AFTER
HANDLING.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:USE NIOSH/MSHA APPROVED ORGANIC VAPOR CARTRIDGE
RESPIRATOR WHEN VAPOR/MIST EXPOSURE IS LIKELY.
Ventilation:GENERAL MECHANICAL AND LOCAL EXHAUST IN ACCORDANCE WITH
ACGIH RECOMMENDATIONS.
Protective Gloves:IMPERMEABLE GLOVES.
Eye Protection:CHEMICAL WORKERS GOGGLES, (SUPP DATA)
Other Protective Equipment:PROTECTIVE CLOTHING. EMERGENCY EYE WASH &
DELUGE SHOWER .
Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING.
Supplemental Safety and Health
KEY1:C4. SEE NSN 8030-00-F01-5580, FOR PART 2 OF THIS KIT, P/N RP 1510,

HARDENER. EYE PROT: ADD FULL LENGTH FACESHIELD TO GOGGLES .

========== Physical/Chemical Properties ==========

HCC:C2
Boiling Pt:B.P. Text:>300F,>149C
Spec Gravity:1.54-1.58(H*2O)
Solubility in Water:INSOLUBLE.
Appearance and Odor:BLACK THIXOTROPIC LIQUID.
Percent Volatiles by Volume:NEGLIG

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZERS, ACIDS AND BASES.
Stability Condition to Avoid:EXCESSIVE HEAT FOR PROLONGED PERIODS OF TIME.
Hazardous Decomposition Products:COMBUSTION MAY FORM TOXIC MATERIALS, SUCH AS CARBON DIOXIDE, CARBON MONOXIDE.

========== Disposal Considerations ==========

Waste Disposal Methods:CONSULT QUALIFIED LOCAL OR CORPORATE PERSONNEL FOR METHOD THAT WILL COMPLY WITH LOCAL, STATE AND FEDERAL HEALTH AND ENVIRONMENTAL REGULATIONS.

ISO9001:2000 Certified

# Material Safety Data Sheet
# Chromic Acid

## Section 1 - Chemical Product and Company Identification

**MSDS Name:**
Chromic Acid
**Catalog Numbers:**
LC13090
**Synonyms:**
Chromium (VI) oxide; Chromic anhydride; Chromium (VI) oxide; Chromium trioxide.
**Company Identification:**
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238
**Company Phone Number:**
(412) 826-5230
**Emergency Phone Number:**
(800) 424-9300
**CHEMTREC Phone Number:**
(800) 424-9300

## Section 2 – Composition, Information on Ingredients

| CAS# | Chemical Name: | Percent |
|---|---|---|
| 1333-82-0 | Chromium trioxide | 100 |

## Section 3 - Hazards Identification

### Emergency Overview

***Appearance:*** Dark red to purple solid.

**Danger!** Toxic if swallowed, inhaled or absorbed through the skin. Strong oxidizer. Contact with other material may cause a fire. Causes burns by all exposure routes. May cause allergic respiratory and skin reaction. Harmful if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Cancer hazard. Possible risk of impaired fertility. May cause heritable genetic damage.

***Target Organs:*** Blood, kidneys, liver, lungs, respiratory system, gastrointestinal system, eyes, skin, mucous membranes.

### Potential Health Effects

**Eye:**

Causes severe eye burns. May cause irreversible eye injury. Causes redness and pain. May cause permanent corneal opacification.

**Skin:**

Harmful if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause deep, penetrating ulcers of the skin. Causes redness and pain. Chronic exposure to water insoluble hexavalent

chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors. Substance is readily absorbed through the skin.

**Ingestion:**

Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause liver and kidney damage. Exposure may cause anemia and other blood abnormalities. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause systemic effects.

**Inhalation:**

May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Prolonged exposure to dusts, vapors, or mists may result in the perforation of the nasal septum. May cause systemic effects.

**Chronic:**

Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Chronic ingestion may cause effects similar to those of acute ingestion. May cause liver and kidney damage. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors. Adverse reproductive effects have been reported in animals. Possible risk of harm to the unborn child. Confirmed Human Carcinogen. May impair fertility.

## Section 4 - First Aid Measures

**Eyes:**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:**

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:**

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:**

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

**Notes to Physician:**

Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Wear

appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:**

Use extinguishing media most appropriate for the surrounding fire. Contact professional fire fighters immediately. Cool containers with flooding quantities of water until well after fire is out. May require flooding with water in order to eliminate hazardous reactions since the materials generate their own oxygen.

**Autoignition Temperature:**

None available.

**Flash Point:**

250ºC (482ºF)

**NFPA Rating:**

(estimated) Health: 3; Flammability: 0; Instability: 0

**Explosion Limits:**

Lower: n/a Upper: n/a

## Section 6 - Accidental Release Measures

**General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill.

## Section 7 - Handling and Storage

**Handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

**Storage:**

Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated location. Separate from combustible materials, halogens, sulfides, metals. See also NFPA 430, Code for the Storage of Liquid and Solid Oxidizers.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

# Material Safety Data Sheet
# Chromic Acid

**Exposure Limits:**

| Chemical Name: | ACGIH | NIOSH | OSHA |
|---|---|---|---|
| Chromium trioxide | 0.05 mg/m3 TWA (as Cr) (listed under Chromium (VI) compounds- water soluble). | 0.001 mg/m3 TWA (as Cr) 15 mg/m3 IDLH (as Cr(VI)). | 5 æg/m3 TWA (listed under Chromium (VI) compounds).2.5 æg/m3 Action Level (as Cr.); 5 æg/m3 TWA (as Cr. Cancer hazard - See 29 CFR 1910.1026) (listed under Chromium (VI) compounds). |

**OSHA Vacated PELs:**

Chromium trioxide: No OSHA Vacated PELs are listed for this chemical.

## Personal Protective Equipment

**Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:**

Wear appropriate gloves to prevent skin exposure.

**Clothing:**

Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

| | |
|---|---|
| **Physical State:** | Solid |
| **Color:** | Dark red to purple |
| **Odor:** | Odorless |
| **pH:** | <1.0 (50g/l aq. sol.) |
| **Vapor Pressure:** | Not available |
| **Vapor Density:** | 3.4 |
| **Evaporation Rate:** | Not available |
| **Viscosity:** | No information |
| **Boiling Point:** | 482ºF |
| **Freezing/Melting Point:** | 385ºF |
| **Decomposition Temperature:** | 482ºF |
| **Solubility in water:** | Soluble |
| **Specific Gravity/Density:** | 2.7 (Water=1) |
| **Molecular Formula:** | CrO3 |
| **Molecular Weight:** | 99.99 |

## Section 10 - Stability and Reactivity

**Chemical Stability:**

Stable under normal temperatures and pressures.

# Material Safety Data Sheet
# Chromic Acid

**Conditions to Avoid:**
Incompatible materials, dust generation, moisture, excess heat.

**Incompatibilities with Other Materials:**
Metals, reducing agents, combustible materials, halogens, sulfides, pyridine, dimethyl formamide, acetic acid, acetic anhydride, acetone, diethyl ether, ethanol, methanol, camphor, glycerol, turpentine, organics, attacks metals in the presence of moisture, Aqueous solution is strongly acidic. Can ignite organic matter on contact., bases, alcohols, alkali metals, ammonia, chlorine trifluoride, finely powdered metals, diethyl formamide, phosphorus, hydrocarbons, ketones.

**Hazardous Decomposition Products:**
Chromium fumes, possible trivalent chromium formation with liberated oxygen.

**Hazardous Polymerization:**
Has not been reported.

## Section 11 - Toxicological Information

**RTECS:**
CAS# 1333-82-0: GB6650000

**LD50/LC50:**
CAS# 1333-82-0:
Oral, mouse: LD50 = 127 mg/kg;
Oral, rat: LD50 = 80 mg/kg;
Inhalation, human: TCLo: = 110ug/m3.

**Carcinogenicity:**
CAS# 1333-82-0:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water soluble').
- **California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).
- **NTP:** Known carcinogen
- **IARC:** Group 1 carcinogen

**Epidemiology:**
No information found

**Teratogenicity:**
No information found

**Reproductive:**
Adverse reproductive effects have occurred in experimental animals.

**Mutagenicity:**
See actual entry in RTECS for complete information.Mutagenic effects have occurred in experimental animals.Mutagenic effects have occurred in humans.

**Neurotoxicity:**
No information found

## Section 12 - Ecological Information

No information found.

## Section 13 - Disposal Considerations

**Dispose of in accordance with Federal, State, and local regulations.**

# Material Safety Data Sheet
# Chromic Acid

## Section 14 - Transport Information

**US DOT**

**Shipping Name:** Chromium trioxide, anhydrous
**Hazard Class:** 5.1
**UN Number:** UN1463
**Packing Group:** II

## Section 15 - Regulatory Information

### US Federal

**TSCA:**

CAS# 1333-82-0 is listed on the TSCA inventory.

**SARA Reportable Quantities (RQ):**

None of the chemicals in this material have an RQ.

**CERCLA/SARA Section 313:**

This material contains Chromium trioxide (listed as Chromium (VI) compounds), 100%, (CAS# 1333-82-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**OSHA - Highly Hazardous:**

None of the chemicals in this product are considered highly hazardous by OSHA.

### US State

**State Right to Know:**

CAS# 1333-82-0 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, (listed as Chromium (VI) compounds- water soluble), Minnesota, (listed as Chromium (VI) compounds), Massachusetts.

**California Regulations:**

WARNING: This product contains Chromium trioxide, listed as `Chromium (VI) compounds', a chemical known to the state of California to cause cancer.

### European/International Regulations

**Canadian DSL/NDSL:**

CAS# 1333-82-0 is listed on Canada's DSL List.

**Canada Ingredient Disclosure List:**

CAS# 1333-82-0 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Other Information

MSDS Creation Date: November 13, 2007
Revision Date: December 4, 2007

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# MATERIAL SAFETY DATA SHEET

CLEAR BACKCOAT VARNISH



**PRODUCT NAME: CLEAR BACKCOAT VARNISH** **HMIS CODES: H F R P**
**PRODUCT CODE: BCG16356** **2 2 0 I**

## ========== SECTION I - MANUFACTURER IDENTIFICATION ==========

**MANUFACTURER'S NAME: C. P. Inc.**
**ADDRESS : PO BOX 1049**
Connersville IN 47331



**EMERGENCY PHONE : (800)424-9300** **DATE PRINTED : 1/28/2005**
**INFORMATION PHONE : (765)825-4111** **NAME OF PREPARER : SCOTT FINDLEY**

## ========== SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION ==========

| REPORTABLE COMPONENTS | CAS NUMBER | VAPOR PRESSURE mm Hg @ TEMP | | WEIGHT PERCENT |
|---|---|---|---|---|
| STOODARD SOLVENT | | 15 | 100 | 28.47 |
| OSHA PEL: 300 PPM, ACGIH TLV: 300 PPM, ACGIH STEL: N/A | | | | |
| HEPTANE | 142-82-5 | | 40.0@68F | 18. |
| ALIPHATIC PETROLEUM DISTILLATES (STODDARD SOLVENT) | 8052-41-3 | 2 | 68 | 16.31 |
| OSHA PEL: 100 PPM, ACGIH TLV: 100 PPM, ACGIH STEL: N/A | | | | |

*** No toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present. ***

* ALUMINUM FLAKE, IF PRESENT, IS CLASSIFIED AS A NUISANCE DUST. HOWEVER, IF THE ALUMINUM FLAKE IS DISTRIBUTED IN A DUST CLOUD, SUCH AS FROM SPRAY ATOMIZATION, THE CLOUD COULD EXPLODE IF SPARK OR OTHER IGNITION SOURCE IS PRESENT.

## ========== SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS ==========

**BOILING RANGE: 200 DEG F - 334 deg F** **SPECIFIC GRAVITY (H2O=1): .84**
**VAPOR DENSITY: HEAVIER THAN AIR** **EVAPORATION RATE: SLOWER THAN ETHER**
**COATING V.O.C.: 4.39 lb/gl** **MATERIAL V.O.C.: 4.39 lb/gl**
**SOLUBILITY IN WATER: Insoluble**
**APPEARANCE AND ODOR: Colored/Metallic liquids with Aromatic / Ketone odor.**

## ========== SECTION IV - FIRE AND EXPLOSION HAZARD DATA ==========

**FLASH POINT: 20 DEG F** **METHOD USED:**
**FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: .9** **UPPER: 6.7**

**EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL**

**SPECIAL FIREFIGHTING PROCEDURES**
Wear self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode when fighting fires. Protective clothing should be worn in fires involving chemicals.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**
Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heater, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. All metal containers should be grounded and /or bonded when material is transfered.

## ========== SECTION V - REACTIVITY DATA ==========

**STABILITY: STABLE**

**CONDITIONS TO AVOID**
Avoid OPEN FLAME and HIGH TEMPERATURE.

**INCOMPATIBILITY (MATERIALS TO AVOID)**
Avoid contact with strong oxidizing agents.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS**
Combustion may form toxic materials such as carbon monoxide and carbon dioxide. See Health Hazards (Acute and Chronic)

**HAZARDOUS POLYMERIZATION: WILL NOT OCCUR**

## ========== SECTION VI - HEALTH HAZARD DATA ==========

**INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**
Dizziness, breathing difficulty, headaches, and loss of coordination.

**SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE**
Eye contact: Severe irritation, tearing, redness, and blurred vision.

**SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**
Skin contact: Can dry and defat skin causing cracks, irritation, and dermititis.

**INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**
Ingestion: Can be fatal. Can cause gastrointestinal irritation, vomiting, nausea, and diarrhea.

**HEALTH HAZARDS (ACUTE AND CHRONIC)**
Exposure to hazardous decomposition byproducts may cause health hazards not immediately apparent. Obtain medical attention. Acute: Inhalation - dizziness, breathing difficulty, headaches, and loss of coordination. Eye contact - Severe irritation, tearing, redness, and blurred vision. Skin contact - can dry and defat skin causing cracks, irritation, and dermititis. Ingestion - Can cause gastrointestinal irritation, vomiting, nausea, & diarrhea. Chronic - NE

**CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: Yes OSHA REGULATED: No**

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**
Pre-existing skin, eye & lung disorders may be aggravated. Personnel susceptible to allergenic reaction see supervisor.

**EMERGENCY AND FIRST AID PROCEDURES**
1 - Inhalation: Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, & get medical attention. 2 - Eyes: Flush with large amounts of water, lifting upper & lower lids occasionally, give medical attention. 3 - Skin: Thoroughly wash exposed area with soap and water. Remove contaminated clothing, wash before reuse. 4 - Ingestion: If swallowed, do not induce vomiting, can cause chemical phneumonitis & pulmonary edema. Keep warm, quiet and get medical attention.

## ========== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE ==========

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**
Eliminate ignition sources, provide good ventilation, provide personnel with proper protective equipment, stop spill at source, dike spill area and add absorbent earth or sawdust to spilled liquid, pump liquid to salvage tank.

**WASTE DISPOSAL METHOD**

Collect absorbent/water/spilled liquid mixture into approved containers. Prevent run-off to sewers, streams or other b ''es of water. If run-off occurs, notify proper authorities as required, that a spill has occured. DESTROY BY LIQUID i NERATION WITH OFF-GAS SCRUBBER Dispose of contaminated absorbent in accordance with Local, State, & Federal Regulations.

## PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep containers tightly closed, store away from heat, sparks, electrical equipment & open flame. Closed containers may build up pressure and explode when exposed to extreme heat. Repair & Maintenance of Contaminated Equipment:Same. Never use welding or cutting torch on or near container (even empty) because product (even residue) can ignite explosively.

## OTHER PRECAUTIONS

WARNING: Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air. Ignition may occur at temperatures below those published as "autoignition" or "ignition" temperatures. Ignition temperatur es decrease with increasing vapor volume & vapor/air contact time, & are influenced by pressure changes. Ignition may occur at typical elevated-temperature process conditions, any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

## ========== SECTION VIII - CONTROL MEASURES ==========

## RESPIRATORY PROTECTION

If TLV of the product or any component is exceeded, a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environment control.

## VENTILATION

Maintain exposure below TLV's.

## PROTECTIVE GLOVES

To prevent repeated exposure or prolonged skin contact, wear impervious clothing, gloves, and boots.

## EYE PROTECTION

Chemical splash goggles in compliance with OSHA regulations are advised.

## OTHER PROTECTIVE CLOTHING OR EQUIPMENT

Eyewash stations, washing facilities, & deluge-type safety showers should be readily accesible to handling areas. Thoroughly wash off contaminated impervious protective clothing with water BEFORE removal. Educate & train in proper use.

## WORK/HYGIENIC PRACTICES

Protective suit or daily change of clothes, including undergarments. Take daily showers.

## ========== SECTION IX - DISCLAIMER ==========

The information contained herein is based on the data available to us and is believed to be correct. However, C.P. Inc makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof, and assumes no responsibility for injury from the use of the product described herein. C.P. Inc. assumes no liability from incidential, consequential or direct damage of any manner or kind, regardless of cause, including negligance. C.P. Inc. has provided the contained information in this Material Safety Data Sheet (M.S.D.S.) to municate physical property, health, and safety information as a vital part of our Product Safety Information program. It is intended that you may better fulfill your obligation to educate and alert exposed personnel in the proper handling techniques necessary to maintain safety in their work environment. C. P. Inc. however, recommends that the user of this product consult experts in the fields of ventilation, toxicology, fire and insurance to adequately interpret and utilize the data and information contained in this M.S.D.S.

# MATERIAL SAFETY DATA SHEET



On February 27, 1988, the first phase of Proposition 65 regulations involving warning of the presence of certain listed c' icals went into effect.C.P. Inc., believes that the law requires us to inform you that detectable amounts of any of t. listed chemicals might be present in C.P. Inc. products. Based on a review of the list, C.P. Inc. Products, like all synthetic and naturally occurring chemical substances, may conceivably contain trace contaminants of some of the listed substances. While not necessarily added to C.P. Inc. products as ingredients, some listed chemicals may be present in the raw materials as received from suppliers and over which we have no control. Therefore, even though some of the listed substances may not represent a significant risk as defined by the regulations, in order to comply with the California law, we feel obliged to make the following statement:

"WARNING: C.P. Inc. products may contain trace amounts of some chemicals considered by the State of California to be carcinogens or reproductive toxicants."

# Material Safety Data Sheet

Chemtronics

CIRCUITWORKS® CONDUCTIVE EPOXY - Part A (Epoxy)

## 1. Product and company identification

**Product name** : CIRCUITWORKS® CONDUCTIVE EPOXY - Part A (Epoxy)

**Supplier** : Chemtronics
8125 Cobb Center Drive
Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

**Synonym** : adhesive

**Trade name** : CIRCUITWORKS® CONDUCTIVE EPOXY - Part A (Epoxy)

**Manufacturer** : Chemtronics
8125 Cobb Center Drive
Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

**Code** : CW2400, CW2400J, CW2400 BLK Part A

**MSDS #** : 4002 A

**Validation date** : 8/30/2013.

**Print date** : 8/30/2013.

**In case of emergency** : Chemtrec - 1-800-424-9300 or collect 703-527-3887
24/7

**Product type** : Solid.

## 2. Hazards identification

**Emergency overview**

**Physical state** : Solid. [Paste.]

**Color** : Gray. [Light]

**Odor** : Mild. Amine-like.

**Signal word** : WARNING!

**Hazard statements** : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

**Precautionary measures** : Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential acute health effects**

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : Silver ingestion may result in generalized argyria.

**Skin** : Severely irritating to the skin. May cause sensitization by skin contact.

**Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.

**Potential chronic health effects**

**Chronic effects** : Contains material that can cause target organ damage.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## 2. Hazards identification

**Target organs** : Contains material which causes damage to the following organs: eye, lens or cornea. Contains material which may cause damage to the following organs: mucous membranes, upper respiratory tract, skin, nose/sinuses, testes.

**Over-exposure signs/symptoms**

**Inhalation** : No specific data.

**Ingestion** : Adverse symptoms may include the following:generalized argyria.

**Skin** : Adverse symptoms may include the following:
irritation
redness

**Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**See toxicological information (Section 11)**

## 3. Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| silver | 7440-22-4 | 60 - 90 |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 25068-38-6 | 10 - 25 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

**Flammability of the product** : No specific fire or explosion hazard.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up**

**Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Place spilled material in a designated, labeled waste container. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

| Ingredient | Exposure limits |
|---|---|
| silver | **ACGIH TLV (United States, 3/2012).**<br>TWA: 0.1 mg/m³ 8 hours. Form: Dust and fumes<br>**NIOSH REL (United States, 1/2013). Notes: as Ag**<br>TWA: 0.01 mg/m³, (as Ag) 10 hours. Form: METAL DUST AND SOLUBLE<br>**OSHA PEL (United States, 6/2010). Notes: as Ag**<br>TWA: 0.01 mg/m³, (as Ag) 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989). Notes: as Ag**<br>TWA: 0.01 mg/m³, (as Ag) 8 hours. |

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

**Physical state** : Solid. [Paste.]

**Flash point** : Closed cup: >93.3°C (>199.9°F) [Setaflash.]

**Color** : Gray. [Light]

**Odor** : Mild. Amine-like.

**Boiling/condensation point** : >93.333°C (>200°F)

**Vapor pressure** : <0.13 kPa (<1 mm Hg) [room temperature]

**Vapor density** : >1 [Air = 1]

**Volatility** : < 0.5% (w/w)

**Evaporation rate** : <1 (butyl acetate = 1)

**Dispersibility properties** : Not dispersible in the following materials: cold water, hot water, methanol, diethyl ether, n-octanol and acetone.

## 10. Stability and reactivity

**Chemical stability** : The product is stable.

**Conditions to avoid** : Excessive Heat.

**Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials acids alkalis Amines. Mercaptans.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced. Carbon dioxide, carbon monoxide, halogenated compounds, metal oxide/oxides

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

**Acute toxicity**

**Conclusion/Summary** : Not available.

**Chronic toxicity**

**Conclusion/Summary** : Not available.

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 microliters | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |

**Conclusion/Summary** : Not available.

**Sensitizer**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Classification**

| Product/ingredient name | OSHA | IARC | NTP | ACGIH | EPA | NIOSH |
|---|---|---|---|---|---|---|
| silver | - | - | - | - | - | None. |

**Mutagenicity**

**Conclusion/Summary** : Not available.

## 11. Toxicological information

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

## 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| silver | Acute EC50 1.4 µg/l Marine water<br>Acute EC50 0.24 µg/l Fresh water<br>Acute LC50 4500 ppb Fresh water<br><br>Acute LC50 2.13 to 2.93 µg/l Fresh water<br>Chronic NOEC 5 mg/l Marine water | Algae - Chroomonas sp.<br>Daphnia - Daphnia magna<br>Crustaceans - Gammarus pseudolimnaeus<br>Fish - Pimephales promelas<br>Algae - Glenodinium halli | 4 days<br>48 hours<br>48 hours<br><br>96 hours<br>72 hours |

**Conclusion/Summary** : Not available.

**Persistence/degradability**

**Conclusion/Summary** : Not available.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | Adhesive, sealants | - | - | | **Reportable quantity** 1333.3 lbs / 605.33 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. |
| | | | | | | |

## 14. Transport information

| | | | | | | |
|---|---|---|---|---|---|---|
| **TDG Classification** | Not regulated. | Adhesive, sealants | - | - | | - |
| **Mexico Classification** | Not regulated. | Adhesive, sealants | - | - | | - |
| **ADR/RID Class** | Not regulated. | Adhesives Sealants | - | - | | Not regulated. |
| **IMDG Class** | Not regulated. | Adhesives Sealants | - | - | | - |
| **IATA-DGR Class** | Not regulated. | Adhesives Sealants | - | - | | - |

PG* : Packing group

## 15. Regulatory information

**HCS Classification** : Irritating material
Target organ effects

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**Clean Water Act (CWA) 307**: silver

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Composition/information on ingredients**

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| silver<br>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 60 - 90<br>10 - 25 | No.<br>No. | No.<br>No. | No.<br>No. | No.<br>Yes. | Yes.<br>No. |

**SARA 313**

## 15. Regulatory information

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | silver | 7440-22-4 | 60 - 90 |
| **Supplier notification** | silver | 7440-22-4 | 60 - 90 |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**State regulations**

**Massachusetts** : The following components are listed: SILVER

**New York** : The following components are listed: Silver

**New Jersey** : The following components are listed: SILVER

**Pennsylvania** : The following components are listed: SILVER

**Canada inventory** : All components are listed or exempted.

**International regulations**

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: Not determined.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

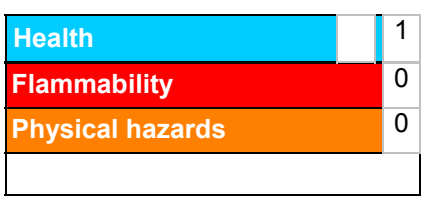
**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

**Hazardous Material Information System (U.S.A.)** :

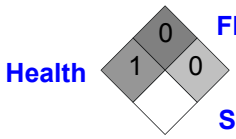



**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)** :

## 16. Other information

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**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

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**Prepared by** : Not available.

**◤ Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# MSDS

## SECTION 1 – Chemical Product and Company Identification

**CATALYST SYSTEMS**
***U S Chemical & Plastics***
***Alco Industries Companies***
**PO Box 88**
**2290 Zimmerman Rd SE**
**Gnadenhutten, OH 44629**
**PH: 740-254-4311**

**CHEMTREC: 1-800-424-9300**

| | |
|---|---|
| **PRODUCT NAME:** | **CREAM HARDENER** |
| **PRODUCT CODE:** | **27640/White, 27641/Red, 27642/Green, 27643/Blue, 28050/Black, 28070/Lt. Red Additional Product Codes on Page 4.** |
| **SYNONYM/CROSS REFERENCE:** | **Polyester Cream Hardener/Polyester Catalyst, Benzoyl Peroxide Paste** |
| **SCHEDULE B NUMBER:** | **3815.90.0000** |

## SECTION 2 – Hazard Identification

OVEREXPOSURE EFFECTS
ACUTE EFFECTS:
EYES: Contact with eyes can cause irritation, redness, tearing, blurred vision, and/or swelling.
SKIN: Contact with skin can cause irritation, (minor itching, burning, and/or redness), dermatitis, defatting may be readily absorbed through the skin.
INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.
INGESTION: Ingestion can cause gastro-intestinal irritation, nausea, vomiting, diarrhea.

PRIMARY ROUTES OF EXPOSURE: Skin, inhalation

## SECTION 3 – Composition, Information or Ingredients

| INGREDIENTS | WGT% | CAS # |
|---|---|---|
| Benzoyl Peroxide | 47.5 – 50.0 | 94-36-0 |

## SECTION 4 – First Aid Measures

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.
SKIN: For skin contact, wash promptly with soap and excess water.
EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.
INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

## SECTION 5 – Fire-Fighting Measures

FIRE EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam
SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.

# MSDS

UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

## SECTION 6 – Accidental Release Measures

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

## SECTION 7 – Handling and Storage

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis, and oxidizers.

## SECTION 8 – Exposure Controls and Personal Protection

| INGREDIENTS | CAS # | TLV/PEL |
|---|---|---|
| Benzoyl Peroxide | 94-36-0 | Combustible when dry: TLV 5 mg/m$^3$* |

*Refer to 29 CFR 1910.0000, subpart Z.
Also see TLV for Chemical Substances and Physical Agents in the Work Environment (ACGIH).

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary.
VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.
PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin.
EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.
OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

## SECTION 9 – Physical and Chemical Properties

APPEARANCE: Red, white, blue, green, or light red paste
SPECIFIC GRAVITY: 1.20
VAPOR PRESSURE (mmHG): N/E
BOILING POINT: Decomposes
VAPOR DENSITY: (Air=1) >1
EVAPORATION RATE (Ethyl Ether = 1): <1
VOLATILES BY WEIGHT: 10 - 20%
SOLUBILITY IN WATER: Insoluble
FLASH POINT: 184°F/84°C
LOWER FLAMMABLE LIMIT %: N/E
UPPER FLAMMABLE LIMIT %: N/E
VOC: Grams/Liter = Nil
Lbs/Gallon = Nil

# MSDS

## SECTION 10 – Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Open flames, sparks, heat, electrical and static discharge.
INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide, and Carbon.
HAZARDOUS POLYMERIZATION: Will not occur.

## SECTION 11 – Toxicological Information

CHRONIC EFFECTS: Overexposure to this material has apparently been known to cause the following effects in lab animals: skin damage and tumors.

CARCINOGEN: YES __ NO X
TERATOGEN: YES __ NO X
MUTAGEN: YES __ NO X

**Benzoyl Peroxide has caused tumorogenic effects in laboratory animals.**

## SECTION 12 – Ecological Information

None.

## SECTION 13 – Disposal Considerations

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

## SECTION 14 – Transport Information

**For Ground Transport:** In USA – In inner containers less than 500 grams each: Consumer Commodity ORM-D or Limited Quantity. In large containers, UN3108, Organic Peroxide Type E, Solid (≤ 52% Dibenzoyl Peroxide as a paste), 5.2, PG II.

**For Air Transport:** Must be re-boxed to UN specified packaging. UN3108, Organic Peroxide Type E, Solid (≤ 52% Dibenzoyl Peroxide as a paste), 5.2, Packaging Instruction 570.

**For Ocean Transport:** UN3108, Organic Peroxide Type E, Solid, 5.2, EMS#F-J, S-R (the activator is ≤ 52% Dibenzoyl Peroxide as a paste). Limited quantity if inner containers are less than 500 grams each.

## SECTION 15 – Regulatory Information

CALIFORNIA PROPOSITION 65:
This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

SECTION 313 SUPPLIER NOTIFICATION:

# MSDS

This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

| CHEMICAL NAME | CAS | % BY WGT |
|---|---|---|
| Benzoyl Peroxide | 94-36-0 | 47.5 – 50% |

This information must be included in all MSDS that are copied and distributed for this chemical.

## SECTION 16 – Other Information

| | | | |
|---|---|---|---|
| HMIS RATING: | Health | 2 | 4 = Extreme |
| | Fire | 2 | 3 = High |
| | Reactivity | 2 | 2 = Moderate |
| | | | 1 = Slight |
| | | | 0 = Insignificant |

Personal Protection - See Section VIII

NOTE: ADDITIONAL PART NUMBERS:

| | |
|---|---|
| Bulk Red | **27641**<br>27008, 27010, 27020, 27027, 27110, 27120, 27121, 27125, 27169, 27170, 27172, 27173, 27174, 27607, 27604, 27607, 27610, 27616, 27626, 27632, 27644, 27649, 27663, 27673, 27690, 27690-1, 27697, 27750, 27751, 28015, 28016, 28028, 28139, 28144, 28149, 28164, 28187 |
| Bulk Lt. Red/Red Raspberry | **28070**<br>27032, 27034, 27111, 27128, 27171, 27633, 27656, 28071, 28143, 28148, 28153 |
| Bulk Light Blue | **27642**<br>27615, 28169 |
| Bulk Blue | **27643**<br>27012, 27022, 27041, 27112, 27115, 27122, 27160, 27603, 27619, 27622, 27628, 27634, 27646, 27665, 27675, 27676, 27677, 27678, 27679, 28029, 28030, 28136, 28141, 28146, 28151, 28156, 28159, 28163, 28165, 28167 |
| Bulk White | **27640**<br>27014, 27024, 27036, 27038, 27114, 27124, 27132, 27168, 27201, 27211, 27621, 27627, 27647, 27648, 27664, 27674, 28025, 28031, 28042, 28043, 28059, 28145, 28150, 28171, 28184, 28185 |
| Bulk Black | **28050**<br>27031, 27035, 27037, 27624, 27669, 28032, 28052, 28183, 28186 |
| Bulk Green | **27638**<br>27637, 28038, 28147 |
| Bulk Yellow | **27636**<br>27614, 28168 |

# MSDS

## ABBREVIATIONS

IARC = International Agency for Research on Cancer
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value
PEL = Permissible Emission Level
DOT = Department of Transportation
NTP = National Toxicology Program
N/AV = Not Available
N/AP = Not Applicable
N/E = Not Established
N/D = Not Determined

PREPARED BY:

**CATALYST SYSTEMS**
*U S Chemical & Plastics*
*Alco Industries Companies*
PO Box 88
2290 Zimmerman Rd SE
Gnadenhutten, OH 44629
PH: 740-254-4311

DATE REVIEWED: January 4, 2012
DATE REVISED: January 4, 2012
REVISION: Section 16

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.

# MATERIAL SAFETY DATA SHEET

**(SIMILAR TO OSHA FORM 174)**

N.A.=Not Applicable
Not Est.=Not Established
Prop.=Proprietary

## SECTION 1-MANUFACTURER/DISTRIBUTOR INFORMATION

**Product Name:** Crystal Clear Concentrate Glass and Window Cleaner Concentrate
**Supplier's Name:** Benman Industries, Inc.
**Supplier's Address:** 1870 E. Main St., P.O. Box 5327 • Bridgeport, CT 06610 **Emergency Phone #:** 1 (203) 334-0376
**HMIS Hazard Code:** Health:3 Flammability:3 Reactivity:0 Other:0 **Chemical Name:** N.A. Proprietary Blend
**Chemical Family:** Concentrated Glass Cleaner **Formula:** N.A. Blended Product
**D.O.T. Shipping Name:** Flammable Liquid n.o.s. (contains isopropanol) **Hazard Class:** 3 **D.O.T. ID#:** UN1993

## SECTION 2-HAZARDOUS INGREDIENTS

| CHEMICAL NAME | CAS NO. | % Concentrate Range | Hazard Ratings (TLV/PEL) |
|---|---|---|---|
| Isopropyl Alcohol | 67-63-0 | PROP. | 400 ppm |
| 2-Butoxy Ethanol | 111-76-2 | PROP. | 25 ppm |
| 2-Amino Ethanol | 141-43-5 | PROP. | 3 ppm |

## SECTION 3-PHYSICAL DATA

**Boiling Point (F):** $180^0$ F
**Vapor Pressure:** 120 mm Hg at $100^0$ F
**Vapor Density:** 2
**Solubility In Water:** Complete
**Appearance:** Thin, Clear, Blue Liquid
**Odor:** Slight Alcoholic
**Specific Gravity:** 0.840
**Evaporation Rate:** 2;N-Butylacetate = 1

## SECTION 4-FIRE AND EXPLOSION DATA

**Flash Point (F):** $76^0$ F (TCC)
**Flammable Limits:** Not Est.
**Unusual Fire & Explosion Hazards:** Respiratory protection required for fire fighting personnel. Stay upwind if possible. Cool exposed tanks with water. Water spray may be ineffective in fire fighting.

## SECTION 5-HEALTH HAZARD DATA

**Route(s) of Entry:** Inhalation:Yes Skin:Yes Ingestion:Yes **Threshold Limit Value:** Not Est.
**Effects of Overexposure:** Vapors irritate eyes, nose, throat. Liquid will damage eye tissue. If ingested may cause gastric distress and systemic intoxication.
**Emergency & First Aid Procedures:** Remove to fresh air and if breathing has stopped give artificial respiration. Keep individual calm. Call a physician. **For Eyes:** Flush with water for at least fifteen minutes and call a physician. **If Ingested:** Do not induce vomiting. Give water and call a physician.
**Conditions Aggravated by Exposure:** May aggravate pre-existing pulmonary condition.

**Listed Carcinogen, Mutagen, Teratogen (Ingredient, Source, Amount):** None

## SECTION 6-REACTIVITY DATA

**Stability:** Stable
**Conditions to Avoid:** None
I**ncompatibility:** Avoid contact with alkylene oxides, acid anhydrides, inorganic acids, organic acids, halogens, phosphorus trichloride, aldehydes, monomers, polymerizable esters, hydrogen with palladium.
**Hazardous Decomposition Products:** None
**Hazardous Polymerization:** Will not occur.

## SECTION 7-SPILL OR LEAK PROCEDURES

**Steps to be taken if material is released or spilled:** Shut off source if possible to do so without hazard. Eliminate sources of ignition. Prevent liquid from entering sewers, watersources, or low areas.
**Waste disposal method:** Follow local, state, and federal regulations.

## SECTION 8-SPECIAL PROTECTION INFORMATION

**Respiratory Protection:** Generally Not Required.
**Ventilation:** Local.
**Protective Gloves:** Latex or Rubber.
**Eye Protection:** Chemical Goggles
**Other Protective Equipment:** None

## SECTION 9-SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store away from heat, sparks, or other sources of ignition. Do not block entrances.
**Other Precautions:** Keep out of reach of children. For sale to, use and storage by service personnel only.



DATE PREPARED-10/5/00 By: G.C.


**MSDS:** 0007667
**Print Date:** 08/20/2009
**Revision Date:** 08/20/2009

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** **DAPCO™ 3300 Silicone Adhesive, Part A**
**Synonyms:** None
**Chemical Family:** Silicone in Toluene
**Molecular Formula:** Mixture
**Molecular Weight:** Mixture

D Aircraft Products, Inc.
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444

**EMERGENCY PHONE (24 hours/day) - For emergency involving spill, leak, fire, exposure or accident call:**
**Asia Pacific Region:**
Australia - +61-3-9663-2130 or 1800-033-111
China (PRC) - +86(0)532-8388-9090 (NRCC)
New Guinea - +61-3-9663-2130
New Zealand - +61-3-9663-2130 or 0800-734-607
All Others - +65-633-44-177 (CareChem24 Singapore)
**Canada:** 1-905-356-8310 (Cytec Welland, Canada plant)
**Europe/Africa/Middle East:** +44-(0)208-762-8322 (CareChem24 UK)
**Latin America:**
Brazil - 0800 0111 767 (SOS Cotec)
Chile - +56-2-247-3600 (CITUC QUIMICO)
All Others - +52-376-73 74122 (Cytec Atequiza, Mexico plant)
**USA:** +1-703-527-3887 or 1-800-424-9300 (CHEMTREC)



## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**OSHA REGULATED COMPONENTS**

| Component / CAS No. | % (w/w) | OSHA (PEL): | ACGIH (TLV): | Carcinogen |
|---|---|---|---|---|
| Toluene<br>108-88-3 | 40.0 - 70.0 | 200 ppm (TWA)<br>300 ppm (Ceiling) | 20 ppm (TWA) | IARC 2B |
| Octamethylcyclotetrasiloxane<br>556-67-2 | < 5 | Not established | Not established | - |

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**APPEARANCE AND ODOR:**
Color: clear

## 3. HAZARDS IDENTIFICATION

Appearance: liquid
Odor: aromatic

**STATEMENTS OF HAZARD:**

DANGER! FLAMMABLE LIQUID AND VAPOR
CAUSES EYE BURNS AND SKIN IRRITATION
VAPOR IRRITATING

**CHRONIC HAZARD WARNING:**

CONTAINS MATERIAL WHICH CAUSED REPRODUCTIVE DISORDERS IN LABORATORY ANIMAL TESTS
Risk of effects depends on duration and level of exposure

**POTENTIAL HEALTH EFFECTS**

EFFECTS OF EXPOSURE:
The estimated acute oral (rat) LD50, acute dermal (rabbit) LD50 and 4-hour inhalation (rat) LC50 values for this material are >862 mg/kg, >2,000 mg/kg and >20 mg/L mg/l, respectively. Direct contact with this material may cause severe eye and moderate skin irritation. Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Refer to Section 11 for toxicology information on the regulated components of this product.

---

## 4. FIRST AID MEASURES

**Ingestion:**
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Skin Contact:**
Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

**Eye Contact:**
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

**Inhalation:**
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

**Notes To Physician:**
Formaldehyde is not a component of this product, however, heating to temperatures above 150 C in the presence of air may result in the release of formaldehyde. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer.

---

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**
Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

**Protective Equipment:**
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**
Keep containers cool by spraying with water if exposed to fire.

---

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**
Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**
Remove sources of ignition. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

---

## 7. HANDLING AND STORAGE

**HANDLING**

**Precautionary Measures:** Keep away from heat, sparks and flame. Do not get in eyes, on skin or on clothing. Do not breathe vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Special Handling Statements:** Heating to temperatures above 150 C (302 F) in the presence of air may result in the release of formaldehyde. Formaldehyde is a known animal carcinogen and is considered to be probably carcinogenic to humans by the International Agency for Research on Cancer and the National Toxicology Program. Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer. The permissable exposure limit for formaldehyde should not be exceeded. Containers must be bonded and grounded when pouring or transferring material.

**STORAGE**
Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material`s flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed.
In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.

**Storage Temperature:** Store at <29 °C 85 °F
**Reason:** Quality.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:**
Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

**Respiratory Protection:**
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Eye Protection:**
Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

**Skin Protection:**
Prevent contamination of skin or clothing when removing protective equipment. Wear impermeable gloves and suitable protective clothing.

**Additional Advice:**
Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment Work clothing and shoes should not be taken home.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | clear |
| **Appearance:** | liquid |
| **Odor:** | aromatic |
| **Boiling Point:** | 111 °C 232 °F (value for toluene) |
| **Melting Point:** | Not applicable |
| **Vapor Pressure:** | 22mm Hg @ 20 °C |
| **Specific Gravity/Density:** | 0.99 |
| **Vapor Density:** | 3.2 |
| **Percent Volatile (% by wt.):** | 55 |
| **pH:** | Not available |
| **Saturation In Air (% By Vol.):** | Not available |
| **Evaporation Rate:** | 1.9 |
| **Solubility In Water:** | negligible |
| **Volatile Organic Content:** | 595 gm/L |
| **Flash Point:** | 2 °C 35 °F Tag Closed Cup |
| **Flammable Limits (% By Vol):** | Lower: 1.2 Upper: 7.0 |
| **Autoignition Temperature:** | Not applicable |
| **Decomposition Temperature:** | Not applicable |
| **Partition coefficient (n-octanol/water):** | Not available |
| **Odor Threshold:** | Not available |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable |
| **Conditions To Avoid:** | Keep away from heat, spark and flame. |
| **Polymerization:** | Will not occur |
| **Conditions To Avoid:** | None known |
| **Materials To Avoid:** | Avoid contact with strong oxidizing agents.<br>Concentrated nitric acid, sulfuric acid, halogen and molten sulfur |
| **Hazardous Decomposition Products:** | Carbon dioxide<br>Carbon monoxide (CO)<br>Formaldehyde |

## 11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION.
Toxicological information on the regulated components of this product is as follows:

Octamethylcyclotetrasiloxane has an acute oral (rat) and dermal (rabbit) LD50 values of 1,540 mg/kg and 794 mg/kg, respectively. This material may cause mild eye and skin irritation.

## 11. TOXICOLOGICAL INFORMATION

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 4,328 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat, female) LC50 value is 5,060 ppm (19.07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene has been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely affect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistic effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene, acetylsalicylic acid and chlorinated hydrocarbons. The literature reports that toluene is an aspiration hazard, that acute oral exposure resulted in reversible visual dysfunction, and that chronic exposure has caused altered immune function in animals. Toluene is a chemical known to the State of California to cause reproductive toxicity.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

---

## 12. ECOLOGICAL INFORMATION

May cause long-term adverse effects in the aquatic environment.
The ecological assessment for this material is based on an evaluation of its components.

---

## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA `listed hazardous waste`or has any of the four RCRA `hazardous waste characteristics.`Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA `listed hazardous waste`; information contained in Section 15 of this MSDS is not intended to indicate if the product is a `listed hazardous waste.`RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

---

## 14. TRANSPORT INFORMATION

## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

**US DOT**

Dangerous Goods? X
Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN/ID Number: UN1133
Transport Label Required: Flammable Liquid

| Component / CAS No. | Hazardous Substances / Reportable Quantity of Product (lbs) |
|---|---|
| Toluene | 1428.571 |
| Benzene | 11111.11 |

Comments: Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the product reportable quantity.

**TRANSPORT CANADA**

Dangerous Goods? X
Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: UN1133
Transport Label Required: Flammable Liquid

**ICAO / IATA**

Dangerous Goods? X
Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: UN1133
Transport Label Required: Flammable Liquid
Packing Instructions/Maximum Net Quantity Per Package:
Passenger Aircraft: 305; 5 L
Cargo Aircraft: 307; 60 L

**IMO**

Dangerous Goods? X
Proper Shipping Name: Adhesives
Hazard Class: 3
UN Number: UN1133
Packing Group: II
Transport Label Required: Flammable Liquid

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## 15. REGULATORY INFORMATION

**Inventory Information**

**United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

**OTHER ENVIRONMENTAL INFORMATION**

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

| Component / CAS No. | % | TPQ (lbs) | RQ(lbs) | S313 | TSCA 12B |
|---|---|---|---|---|---|
| Octamethylcyclotetrasiloxane<br>556-67-2 | < 5 | None | 0 | No | No |
| Benzene<br>71-43-2 | < 0.1 | None | 10 | Yes | No |
| Toluene<br>108-88-3 | 40.0 - 70.0 | None | 1000 | Yes | No |

**PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA**

- Acute
- Chronic
- Fire

## 16. OTHER INFORMATION

**NFPA Hazard Rating (National Fire Protection Association)**

Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

**Reasons For Issue:** Revised Section 15

Randy Deskin, Ph.D., DABT +1-973-357-3100

**MSDS:** 0007668
**Print Date:** 06/22/2006
**Revision Date:** 06/22/2006

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** **DAPCO™ 3300 Silicone Adhesive, Part B**
**Synonyms:** None
**Product Description:** Silane in solvent
**Intended/Recommended Use:** Engineered materials

**Supplied By:** D Aircraft Products, Inc.
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444
EMERGENCY PHONE: In CANADA: 1-905/356-8310 In USA: 1-800/424-9300 or 1-703/527-3887.

**Manufactured By:** D Aircraft Products, Inc., a wholly owned subsidiary of Cytec Industries Inc.
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92806 714/632-8444



## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**WHMIS REGULATED COMPONENTS**

| Component / CAS No. | % (w/w) | OSHA (PEL): | ACGIH (TLV) | Carcinogen |
|---|---|---|---|---|
| gamma-Aminopropyltriethoxy silane<br>919-30-2 | < 5.0 | Not established | Not established | - |
| N-[3-(Trimethoxy-silyl)propyl]-1,2-ethanediamine<br>1760-24-3 | < 5.0 | Not established | Not established | - |
| Isopropanol<br>67-63-0 | 30.0 - 60.0 | 400 ppm (TWA)<br>980 mg/m$^3$ (TWA) | 200 ppm (TWA)<br>400 ppm (STEL) | - |
| Toluene<br>108-88-3 | 30.0 - 60.0 | 200 ppm (TWA)<br>300 ppm (Ceiling) | 50 ppm (TWA)<br>(skin) | - |

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**APPEARANCE AND ODOR:**

Color: clear
Appearance: liquid
Odor: amine

**STATEMENTS OF HAZARD:**

DANGER! FLAMMABLE LIQUID AND VAPOR
CAUSES EYE BURNS AND SKIN IRRITATION
VAPOR IRRITATING

**CHRONIC HAZARD WARNING:**

CONTAINS MATERIAL WHICH CAUSED REPRODUCTIVE DISORDERS IN LABORATORY ANIMAL TESTS
Risk of effects depends on duration and level of exposure

**POTENTIAL HEALTH EFFECTS**

EFFECTS OF EXPOSURE:
The acute oral (rat) and dermal (rabbit) LD50 values are estimated to be greater than 5,000 mg/kg and greater than 2,000 mg/kg, respectively. Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Direct contact with this material may cause severe eye and moderate skin irritation. Refer to Section 11 for toxicology information on the regulated components of this product.

---

## 4. FIRST AID MEASURES

**Ingestion:**
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Skin Contact:**
Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

**Eye Contact:**
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

**Inhalation:**
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

---

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**
Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

**Protective Equipment:**
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**
Keep containers cool by spraying with water if exposed to fire.

**Mechanical/Static Sensitivity Statements:**
Areas containing this material should have fire-safe practices and electrical equipment in accordance with applicable governmental regulations for products with the flashpoint as shown (Physical and Chemical Properties Section).

---

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**
Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**
Remove sources of ignition. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

---

## 7. HANDLING AND STORAGE

**HANDLING**

**Precautionary Measures:** Keep away from heat, sparks and flame. Do not get in eyes, on skin or on clothing. Do not breathe vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Special Handling Statements:** Containers must be bonded and grounded when pouring or transferring material.

**STORAGE**
Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material`s flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed.
In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.

**Storage Temperature:** Store at 27 °C 80 °F
**Reason:** Integrity.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:**
Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

**Respiratory Protection:**
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Eye Protection:**
Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

**Skin Protection:**
Prevent contamination of skin or clothing when removing protective equipment. Wear impermeable gloves and suitable protective clothing.

**Additional Advice:**
Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment Work clothing and shoes should not be taken home.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | clear |
| **Appearance:** | liquid |
| **Odor:** | amine |
| **Boiling Point:** | >82 °C 180 °F |
| **Melting Point:** | Not applicable |
| **Vapor Pressure:** | >33mm Hg @ 20 °C |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Specific Gravity/Density:** | 0.83 |
| **Vapor Density:** | >2 |
| **Percent Volatile (% by wt.):** | >95 |
| **pH:** | Not applicable |
| **Saturation In Air (% By Vol.):** | Not available |
| **Evaporation Rate:** | >2 |
| **Solubility In Water:** | Reacts with water |
| **Volatile Organic Content:** | 815 gm/L |
| **Flash Point:** | 7 °C 45 °F (value for toluene) Tag Closed Cup |
| **Flammable Limits (% By Vol):** | Lower: 1.4 Upper: 12.0 |
| **Autoignition Temperature:** | Not applicable |
| **Decomposition Temperature:** | Not applicable |
| **Partition coefficient (n-octanol/water):** | Not applicable |
| **Odor Threshold:** | Not available |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable |
| **Conditions To Avoid:** | None known |
| **Polymerization:** | Will not occur |
| **Conditions To Avoid:** | None known |
| **Materials To Avoid:** | Strong oxidizers, acids. |
| **Hazardous Decomposition Products:** | May produce fumes<br>smoke<br>carbon monoxide<br>carbon dioxide<br>nitrogen<br>silicon |

## 11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION.
Toxicological information on the regulated components of this product is as follows:

N-[3-(trimethoxysilyl)]-1,2-ethanediamine, also known as N-Beta-(Aminoethyl)- gamma-aminopropyltrimethoxysilane is a severe eye irritant. Direct contact may cause mild skin irritation. Other toxicological properties have not been fully investigated.

gamma-Aminopropyltriethoxy silane has acute oral (rat) and dermal (rabbit) LD50 values of 1780 mg/kg and 4000 mg/kg, respectively. Direct contact with this material caused severe eye and skin irritation when tested in rabbits. Test animals displayed central nervous system effects during acute toxicity studies. Inhalation of vapors can cause irritation of the eyes and upper respiratory tract. Prolonged contact with eyes or skin can cause chemical burns and tissue destruction and may also result in dermal sensitization. Ingestion of gamma-Aminopropyltriethoxy silane can cause damage to the gastrointestinal tract, liver, and kidneys. Absorption of this material caused kidney damage in laboratory animals.

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 4,328 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat, female) LC50 value is 5,060 ppm (19.07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene has been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely affect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistic effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene, acetylsalicylic acid and chlorinated hydrocarbons. The literature reports that toluene is an aspiration hazard, that acute oral exposure resulted in reversible visual dysfunction, and that chronic exposure has caused altered immune function in animals. Toluene is a chemical known to the State of California to cause reproductive toxicity.

Isopropanol has acute oral (rat) and dermal (rabbit) LD50 values of 5.0 g/kg and 12.8 g/kg, respectively. The 4-hour inhalation LC50 (rat) for isopropanol is >16,000 ppm (40.86 mg/L). Acute overexposure to isopropanol vapor may cause mild irritation of the eyes and respiratory tract. Chronic overexposure to isopropanol vapors may cause central nervous system depression, headaches, dizziness, nausea, and staggered gait. Liquid isopropanol may cause moderate to severe eye irritation. In laboratory animals studies, isopropanol has produced fetotoxic effects at levels that were maternally toxic and developmental effects at levels that were maternally non-toxic, and inhalation exposures that produced reduced fetal weight at non-maternally toxic levels.

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## 12. ECOLOGICAL INFORMATION

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
The ecological assessment for this material is based on an evaluation of its components.

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## 13. DISPOSAL CONSIDERATIONS

Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternative to disposal as a waste. Cytec recommends that organic materials classified as hazardous waste according to the relevant local or national regulations be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

---

## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

**US DOT**

Proper Shipping Name: Adhesives

Hazard Class: 3
Packing Group: II
UN/ID Number: UN1133
Transport Label Required: Flammable Liquid
Hazardous Substances:

| Component / CAS No. | Reportable Quantity of Product (lbs) |
|---|---|
| Toluene | 1,667 |

**TRANSPORT CANADA**

Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: 1133
Transport Label Required: Flammable Liquid

**ICAO / IATA**

Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: 1133
Transport Label Required: Flammable Liquid
Packing Instructions/Maximum Net Quantity Per Package:
Passenger Aircraft: 305; 5L
Cargo Aircraft: 307; 60L

**IMO**

Proper Shipping Name: Adhesives
Hazard Class: 3
UN Number: 1133
Packing Group: II
Transport Label Required: Flammable Liquid

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## 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled products Regulations and this Material Safety Data Sheet contains all the information required by the Controlled Products Regulations.

**WHMIS CLASSIFICATION:**
Class B2 Flammable Liquid
Class D2A Very Toxic
Class D2B Toxic

**INVENTORY INFORMATION**

**United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**European Union (EU):** All components of this product are included on the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.

**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

---

## 16. OTHER INFORMATION

**NFPA Hazard Rating (National Fire Protection Association)**

Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

Reactivity: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

**Reasons For Issue:** New Format

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Prepared By: Randy Deskin, Ph.D., DABT +1-973-357-3100
Date: 08/15/2003

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**MSDS:** 0007668
**Date:** 08/15/2003
**Supercedes:** 11/16/2001

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** **DAPCO™ 3300 Silicone Adhesive, Part B**
**Synonyms:** None
**Chemical Family:** Silanes in Toluene and Isopropanol
**Molecular Formula:** Mixture
**Molecular Weight:** Mixture

D Aircraft Products, Inc.
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444
EMERGENCY PHONE: For product emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.



## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**OSHA REGULATED COMPONENTS**

| Component / CAS No. | % (w/w) | OSHA (PEL): | ACGIH (TLV) | Carcinogen |
|---|---|---|---|---|
| N-[3-(Trimethoxy-silyl)propyl]-1,2-ethanediamine 1760-24-3 | < 5.0 | Not Established | Not Established | - |
| gamma-Aminopropyltriethoxy silane 919-30-2 | < 5.0 | Not Established | Not Established | - |
| Toluene 108-88-3 | 30.0 - 60.0 | 200 ppm 300 ppm ceiling | 50 ppm (skin) | - |
| Isopropanol 67-63-0 | 30.0 - 60.0 | 400 ppm | 400 ppm 500 ppm STEL | - |

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**APPEARANCE AND ODOR:**

Color: clear
Appearance: liquid
Odor: amine

**STATEMENTS OF HAZARD:**

DANGER! FLAMMABLE LIQUID AND VAPOR
CAUSES EYE BURNS AND SKIN IRRITATION
VAPOR IRRITATING

**CHRONIC HAZARD WARNING:**

CONTAINS MATERIAL WHICH CAUSED REPRODUCTIVE DISORDERS IN LABORATORY ANIMAL TESTS
Risk of effects depends on duration and level of exposure

### POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE:
Acute oral (rat) and dermal (rabbit) LD50 values are estimated to be greater than 5,000 mg/kg and greater than 2,000 mg/kg, respectively.
Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Direct contact with this material may cause severe eye and moderate skin irritation. Refer to Section 11 for toxicology information on the regulated components of this product.

---

## 4. FIRST AID MEASURES

**Ingestion:**
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Skin Contact:**
Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

**Eye Contact:**
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

**Inhalation:**
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistant symptoms.

---

## 5. FIRE-FIGHTING MEASURES

**Extinguishing Media:**
Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

**Protective Equipment:**
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**
Keep containers cool by spraying with water if exposed to fire.

---

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**
Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**
Remove sources of ignition. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

---

## 7. HANDLING AND STORAGE

**HANDLING**

**Precautionary Measures:** Keep away from heat, sparks and flame. Do not get in eyes, on skin or on clothing. Do not breathe vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Handling Statements:** None

**STORAGE**
Areas containing this material should have fire-safe practices and electrical equipment in accordance with applicable governmental regulations for products with the flashpoint as shown (Physical and Chemical Properties Section).

**Storage Temperature:** Store at 27 °C 80 °F
**Reason:** Integrity

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:**
Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

**Respiratory Protection:**
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Eye Protection:**
Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

**Skin Protection:**
Prevent contamination of skin or clothing when removing protective equipment. Wear impermeable gloves and suitable protective clothing.

**Additional Advice:**
Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment Work clothing and shoes should not be taken home.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | clear |
| **Appearance:** | liquid |
| **Odor:** | amine |
| **Boiling Point:** | >82 °C 180 °F |
| **Melting Point:** | Not applicable |
| **Vapor Pressure:** | >33mm Hg @ 20 °C |
| **Specific Gravity:** | 0.83 |

| | |
|---|---|
| **Vapor Density:** | >2 |
| **Percent Volatile (By Wt.):** | >95 |
| **pH:** | Not applicable |
| **Saturation In Air (% By Vol.):** | Not available |
| **Evaporation Rate:** | >2 |
| **Solubility In Water:** | Reacts with water |
| **Volatile Organic Content:** | 815 gm/L |
| **Flash Point:** | 7 °C 45 °F (value for toluene) Tag Closed Cup |
| **Flammable Limits (% By Vol):** | Lower: 1.4 Upper: 12.0 |
| **Autoignition Temperature:** | Not applicable |
| **Decomposition Temperature:** | Not applicable |
| **Partition coefficient (n-octanol/water):** | Not applicable |
| **Odor Threshold:** | See Section 2 for exposure limits. |

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## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable |
| **Conditions To Avoid:** | None known |
| **Polymerization:** | Will not occur |
| **Conditions To Avoid:** | None known |
| **Materials To Avoid:** | Strong oxidizers, acids. |
| **Hazardous Decomposition Products:** | May produce fumes<br>smoke<br>carbon monoxide<br>carbon dioxide<br>nitrogen<br>silicon |

---

## 11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION.
Toxicological information on the regulated components of this product is as follows:

N-[3-(trimethoxysilyl)]-1,2-ethanediamine, also known as N-Beta-(Aminoethyl)- gamma-aminopropyltrimethoxysilane is a severe eye irritant. Direct contact may cause mild skin irritation. Other toxicological properties have not been fully investigated.

gamma-Aminopropyltriethoxy silane has acute oral (rat) and dermal (rabbit) LD50 values of 1780 mg/kg and 4000 mg/kg, respectively. Direct contact with this material caused severe eye and skin irritation when tested in rabbits. Inhalation of vapors can cause irritation of the eyes and upper respiratory tract. Prolonged contact with eyes or skin can cause chemical burns and tissue destruction. Ingestion of gamma-Aminopropyltriethoxy silane can cause damage to the gastrointestinal tract, liver, and kidneys. Absorption of this material caused kidney damage in laboratory animals.

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 5580 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat,female) LC50 value is 5,060 ppm (19.07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene have been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely effect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistics effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene and chlorinated hydrocarbons. Toluene is a chemical known to the State of California to cause reproductive toxicity.

Isopropanol has acute oral (rat) and dermal (rabbit) LD50 values of 5.0 g/kg and 12.8 g/kg, respectively. The 4-hour inhalation LC50 (rat) for isopropanol is >16,000 ppm (40.86 mg/L). Acute overexposure to isopropanol vapor may cause mild irritation of the eyes and respiratory tract. Chronic overexposure to isopropanol vapors may cause central nervous system depression, headaches, dizziness, nausea, and staggered gait. Liquid isopropanol is a severe eye irritant.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause birth defects or other reproductive harm.

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## 12. ECOLOGICAL INFORMATION

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
The ecological assessment for this material is based on an evaluation of its components.

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## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Cytec product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA `listed hazardous waste`or has any of the four RCRA `hazardous waste characteristics.`Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA `listed hazardous waste`; information contained in Section 15 of this MSDS is not intended to indicate if the product is a `listed hazardous waste.`RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Cytec recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Cytec has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

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## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

**US DOT**

Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN/ID Number: UN1133
Transport Label Required: Flammable Liquid
Hazardous Substances:

| Component / CAS No. | Reportable Quantity of Product (lbs) |
|---|---|
| Toluene | 1,667 |

**TRANSPORT CANADA**

Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: 1133
Transport Label Required: Flammable Liquid

**ICAO / IATA**

Proper Shipping Name: Adhesives
Hazard Class: 3
Packing Group: II
UN Number: 1133
Transport Label Required: Flammable Liquid
Packing Instructions/Maximum Net Quantity Per Package:
Passenger Aircraft: 305; 5L
Cargo Aircraft: 307; 60L

**IMO**

Proper Shipping Name: Adhesives
Hazard Class: 3
UN Number: 1133
Packing Group: II
Transport Label Required: Flammable Liquid

## 15. REGULATORY INFORMATION

**INVENTORY INFORMATION**

**United States (USA):** This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.

**Canada:** Components of this product have been reported to Environment Canada in accordance with Sections 66 and/or 81 of the Canadian Environmental Protection Act (1999), and are included on the Domestic Substances List.

**European Union (EU):** All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

**OTHER ENVIRONMENTAL INFORMATION**

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

| Component / CAS No. | TPQ(lbs) | RQ(lbs) | S313 | TSCA 12B |
|---|---|---|---|---|
| Toluene<br>108-88-3 | NONE | 1000 | Yes | No |

**PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA**

- Acute
- Chronic
- Fire

## 16. OTHER INFORMATION

**NFPA Hazard Rating (National Fire Protection Association)**

Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

Reactivity: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

**Reasons For Issue:** Revised Section 2
Revised Section 12

Randy Deskin, Ph.D., DABT +1-973-357-3100

Version: 7.0
Date Revised: 21.12.2011

# Material Safety Data Sheet
## De-Solv-It Solution

## 1. Identification of the Material and Supplier

| | |
|---|---|
| Product Name: | **De-Solv-It Solution** |
| Other Name: | NONE |
| Use: | Sticky spot and stain remover. |
| Supplier/ Contact details: | RCR International P/L (ABN 21089270360)<br>Level 2, 3 Joseph Avenue<br>MOORABBIN AIRPORT VIC 3194<br>Tel: 03 9558 2020<br>Fax:03 9558 3030 |
| Emergency contact: | **Manager**: (03) 9558 2020<br>**Poisons Information Centre (24 hours):** 13 11 26<br>**Police / Fire Brigade:** 000 (exchange 1100) |

## 2. Hazard Identification

### HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS;

According to Safe Work Australia (formerly NOHSC)

| | |
|---|---|
| RISK PHRASES | R36/38 Irritating to eyes and skin.<br>R43 May cause sensitisation by skin contact.<br>R65 Harmful: May cause lung damage if swallowed. |
| SAFETY PHRASES | S2 Keep out of reach of children.<br>S23 Do not breathe gas/fumes/vapour/spray (where applicable).<br>S24 Avoid contact with skin.<br>S36/36 Wear Suitable protective clothing and gloves<br>S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label. |

## 3. Composition/Information on Ingredients

| Chemical Entity | CAS No. | Conc. |
|---|---|---|
| Aliphatic hydrocarbon solvent | 64742-88-7 | 40 – 80 % |
| D-Limonene | 5989-27-5 | 8 – 20 % |
| Surfactant | 68131-39-5 | 1 – 10 % |

# Material Safety Data Sheet
## De-Solv-It Solution

## 4. First-aid Measures

**Swallowed:**
If poisoning occurs, give a glass of water. Do **NOT** induce vomiting. If vomiting occurs spontaneously, avoid aspiration into the lungs. **DO NOT** attempt to give liquids to an unconscious person.

**Eye:**
If in eyes, hold eyes open, flood with water for at least 15 minutes. If irritation or pain persists, seek medical attention.

**Skin:**
Remove contaminated clothing. Wash skin with water. If irritation occurs, seek medical advice. For excessive exposure, wipe contaminated skin with a clean cloth or paper towel to remove excess material. Then wash thoroughly with soap and water and seek medical attention if irritation persists. Launder clothing before re-use.

**Inhalation:**
Remove contaminated clothing and loosen remaining clothing. Remove from contaminated area. Move to fresh air if possible. If liquid is aspirated into the lungs, seek immediate medical assistance.

**First Aid Facilities:**
Sterile eyewash container/facilities.

**Advice to Doctor:**
Treat symptomatically.

## 5. Fire-fighting Measures

**Flammability:**
Combustible liquid. Vapour is heavier than air and may travel some distance in, for example, pits and drains to a source of ignition.

**Suitable extinguishing media:**
Water spray, carbon dioxide (CO2), foam, dry powder.

**Specific hazards:**
On burning, may emit noxious gases including carbon monoxide and carbon dioxide.

**Exposure hazards:**
Contaminated water from fire hoses or sprinklers must be prevented from draining into watercourses, sewers or the ground water. Sufficient measures must be taken to retain the water used for extinguishing. Contaminated water and soil must be disposed of according to local regulations.

**Special protective equipment:**
Chemical protection suit, suitable gloves, boots and self contained breathing apparatus.

**HazChem Code:**
None Allocated.

# Material Safety Data Sheet
## De-Solv-It Solution

## 6. Accidental Release Measures

**Personal precautions:**
Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

**Environmental precautions:**
Prevent entry into sewage systems, ground and surface waters.

**Methods for cleaning-up or taking-up:**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scoop into marked containers for disposal as chemical waste and dispose of in accordance with local regulations.

## 7. Handling and Storage

**Handling**
Provide good ventilation of working area (local exhaust ventilation if necessary). Do not eat, drink or smoke at the workplace.

**Storage requirements:**
Keep container tightly closed in a dry, cool and well-ventilated place, away from open flames and other ignition sources. Protect containers from physical damage. Avoid contact with strong oxidising agents.

## 8. Exposure Controls and Personal Protection

**Exposure limit values**
None assigned by Safe Work Australia

**Biological Limit Values:**
NAP

**Engineering Controls:**
Ensure adequate ventilation, especially in confined areas.

**Respiratory protection:**
Wear respiratory protection if ventilation is inadequate. Ensure respirator is clean and in good working order and complies with AS 1715 and AS 1716.

**Hand protection:**
Wear suitable, solvent-resistant gloves. It is recommended that nitrile rubber gloves be worn by sensitive individuals.

**Eye protection:**
Safety glasses with side-shields.

**Other:**
Always wash hands before eating, drinking, smoking or using the toilet.

# Material Safety Data Sheet
## De-Solv-It Solution

## 9. Physical and Chemical Properties

| | |
|---|---|
| Form: | liquid |
| Appearance: | Clear, colorless to pale yellow |
| Odour: | Strong Citrus Odour |
| Boiling point: | > 100°C |
| Melting point: | < 0°C |
| Specific Gravity: | 0.8 (approx) |
| Solubility in water: | Miscible |
| Vapour pressure: | < 0.1 kPa @ 20 °C |
| Vapour density (Air): | >1 |
| Volatility: | >90 % |
| Flash point: | >62°C (PMCC) |
| Lower explosion limit: | 0.6 % (solvent) |
| Upper explosion limit: | 7.0 % (solvent) |
| Auto-Ignition Temp | >200 |
| pH | NAV |

## 10. Stability and Reactivity

**Conditions to avoid:**
Avoid heat and ignition sources

**Materials to avoid:**
Strong acids, strong bases, strong oxidizing agents.

**Hazardous decomposition products:**
No decomposition expected under normal storage conditions. On burning, will emit noxious gases including carbon monoxide and carbon dioxide

## 11. Toxicological Information

**Acute Oral:** The liquid may be harmful if swallowed. Swallowing can result in nausea, vomiting and diarrhea. Vomit entering the lungs by aspiration may cause potentially lethal chemical pneumonitis.

**Acute Skin irritation/corrosion**: Irritant when exposure is prolonged. Frequent or prolonged exposure will defat the skin leading to discomfort and possible dermatitis in some sensitive individuals.

**Acute Eye irritation/corrosion**: Irritant. Contact with eyes may cause moderate irritation. The vapour is mildly irritating to the eyes.

**Inhalation:** Not tested Not normally an inhalation risk due to low vapour pressure at ambient temperatures. In confined spaces or where ambient ventilation is inadequate, inhalation of vapour may cause irritation to the eyes, headaches, dizziness and respiratory irritation. Small amounts of liquid aspirated into the lungs resulting from accidental swallowing, or from vomiting, may cause lung damage.

# Material Safety Data Sheet
## De-Solv-It Solution

**Skin Sensitization:** Classified (Conventional method) as Skin Sensitizer. Repeated or prolonged exposure could result in skin effects, such as dermatitis, in some sensitive individuals.

## 12. Ecological Information

**Toxicity to Aquatic Organisms:**

Not tested. Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.

**Biodegradation:**

Not tested

**Bioaccumulation:**

No data available

## 13. Disposal Considerations

**Waste disposal of substance:**

Observe all local regulations.

**Contaminated packaging:**

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation.

## 14. Transport Information

**NOT CLASSIFIED AS A DANGEROUS GOODS FOR TRANSPORT**

**UN No:** None Allocated
**HAZCHEM:** None Allocated (ADG7)
Labels Required: COMBUSTIBLE LIQUID (C1), regulated under AS1940

## 15. Regulatory Information

**NICNAS/AICS:** All components in this product are listed in the Australian Inventory of Chemical Substances (AICS)

**POISONS SCHEDULE:** Classified as a Schedule 5 (S5) Poison according to the Standard for the Uniform Scheduling of Drugs (SUSDP)

## 16. Other Information

This Material Safety Data Sheet (MSDS) summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the Workplace where other products may be present. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

| | |
|---|---|
| Common Name: | DEM-KOTE FLAT WHITE, GR06MT5500 |
| Manufacturer: | SEYMOUR OF SYCAMORE |
| MSDS Revision Date: | 8/7/2006 |
| MSDS Format: | No Format Specified |

| | |
|---|---|
| Grainger Item Number(s): | 6MT55 |
| Manufacturer Model Number(s): | GR06MT5500 |

## MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.



S(R*)
SEYMOUR(R*)

MATERIAL SAFETY DATA SHEET

ACC. TO ISO/DIS 11014

PRINTING DATE: 08/07/2006

REVIEWED ON: 08/07/2006

## 1 IDENTIFICATION OF SUBSTANCE

top

TRADE NAME: DEM-KOTE FLAT WHITE

PRODUCT CODE: GR06MT5500

MANUFACTURER/SUPPLIER:
SEYMOUR OF SYCAMORE
917 CROSBY AVENUE
SYCAMORE, IL 60178
(815)-895-9101, WWW.SEYMOURPAINT.COM

INFORMATION DEPARTMENT: HEALTH & SAFETY DEPARTMENT

EMERGENCY INFORMATION:
CHEMTEL: 1-800-255-3924, 813-248-0585 IF LOCATED OUTSIDE THE U.S.

## 2 COMPOSITION/DATA ON COMPONENTS

top

CHEMICAL DESCRIPTION:
THIS PRODUCT IS A MIXTURE OF THE SUBSTANCES LISTED BELOW WITH NONHAZARDOUS ADDITIONS.

DANGEROUS COMPONENTS:

| | | |
|---|---|---|
| 67-64-1 | ACETONE | 31.37% |
| 74-98-6 | PROPANE | 15.82% |
| 108-88-3 | TOLUENE | 9.85% |
| 106-97-8 | n-BUTANE | 9.29% |
| 1317-65-3 | CALCIUM CARBONATE | 8.07% |
| 13463-67-7 | TITANIUM DIOXIDE | 6.12% |
| 110-19-0 | ISOBUTYL ACETATE | 2.44% |
| 107-87-9 | METHYL PROPYL KETONE | 2.15% |
| 112926-00-8 | SILICONE DIOXIDE AMORPHOUS SYNTHETIC | 1.7% |
| 2807-30-9 | GLYCOL ETHER EP | 1.29% |
| 108-65-6 | PM ACETATE | 1.21% |

ADDITIONAL INFORMATION:
FOR THE WORDING OF THE LISTED RISK PHRASES REFER TO SECTION 3.

## 3 HAZARDS IDENTIFICATION

top

HAZARD DESCRIPTION:
IRRITANT
EXTREMELY FLAMMABLE

PHYSICAL DANGERS:
HAS A NARCOTIZING EFFECT.

DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR IN A PRESSURIZED CONTAINER.
VAPORS MAY CAUSE FLASH FIRE.
KEEP AWAY FROM HEAT, SPARKS, AND FLAME.
EXTREMELY FLAMMABLE.
IRRITATING TO EYES AND RESPIRATORY SYSTEM.
VAPORS MAY CAUSE DROWSINESS AND DIZZINESS
KEEP OUT OF THE REACH OF CHILDREN.

EFFECTS OF SHORT-TERM OVEREXPOSURE:
VAPORS CAUSE IRRITATION TO THE EYES, NOSE, THROAT, SKIN, AND CENTRAL NERVOUS SYSTEM. SYMPTOMS MAY INCLUDE DIZZINESS, THROAT IRRITATION, HEADACHE, FATIGUE, SWELLING OF EYES, AND NAUSEA.

EFFECTS OF CHRONIC OVEREXPOSURE:
MAY CAUSE PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. REPEATED OVEREXPOSURE CAN ALSO DAMAGE KIDNEYS, LUNGS, LIVER, HEART, AND BLOOD. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

NFPA RATINGS (SCALE 0 - 4):
HEALTH 1
FIRE 4

REACTIVITY 3

HMIS-RATINGS (SCALE 0 - 4):
HEALTH 1
FIRE 4
PHYSICAL HAZARD 3

## 4 FIRST AID MEASURES

top

AFTER INHALATION: IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN.

AFTER SKIN CONTACT:
REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH SOAP AND WATER.

AFTER EYE CONTACT:
MOVE TO FRESH AIR. RINSE OPENED EYE FOR SEVERAL MINUTES UNDER RUNNING WATER. IF SYMPTOMS PERSIST, CONSULT A DOCTOR.

AFTER SWALLOWING: CONTACT PHYSICIAN OR POISON CONTROL CENTER.

## 5 FIRE FIGHTING MEASURES

top

EXTINGUISHING AGENTS:
CO2, SAND, EXTINGUISHING POWDER, OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM.

PROTECTIVE EQUIPMENT: NO SPECIAL MEASURES REQUIRED.

## 6 ACCIDENTAL RELEASE MEASURES

top

PERSONAL SAFETY PRECAUTIONS:
WEAR PROTECTIVE EQUIPMENT. KEEP UNPROTECTED PERSONS AWAY.

ENVIRONMENTAL SAFETY PRECAUTIONS:
DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEMS OR GROUND WATER.
INFORM APPROPRIATE AUTHORITIES IN CASE OF SEEPAGE INTO WATER COURSE OR SEWAGE SYSTEM.

MEASURES FOR CLEANING/COLLECTING:
DO NOT FLUSH WITH WATER OR AQUEOUS CLEANSING AGENTS. USE DILUTED CAUSTIC SOLUTION. SOAK UP SPILLS WITH INERT ABSORBENT MATERIAL. REFER TO SECTION 13 FOR DISPOSAL INFORMATION.

## 7 HANDLING AND STORAGE

top

FIRE/EXPLOSION PROTECTION:
DO NOT SPRAY ON A NAKED FLAME OR ANY INCANDESCENT MATERIAL.
DO NOT SMOKE. PROTECT FROM ELECTROSTATIC CHARGES.

STORAGE REQUIREMENTS:
OBSERVE PRESSURIZED CONTAINER STORAGE REGULATIONS. CONSULT WITH YOUR LOCAL AUTHORITIES.

KEEP AWAY FROM SOURCES OF HEAT AND DIRECT SUNLIGHT. DO NOT WAREHOUSE IN SUBFREEZING CONDITIONS.

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

top

COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:

74-98-6 PROPANE:
PEL: 1800 MG/M3, 1000 PPM
REL: 1800 MG/M3, 1000 PPM
TLV: (4508) MG/M3, (2500) PPM

106-97-8 n-BUTANE:
REL: 1900 MG/M3, 800 PPM
TLV: 1900 MG/M3, 800 PPM

1317-65-3 CALCIUM CARBONATE:

PEL:
15*; 5** MG/M3
*TOTAL DUST
**RESPIRABLE FRACTION

REL:
10*; 5** MG/M3

*TOTAL DUST
**RESPIRABLE FRACTION

TLV: 10 MG/M3 (E)

110-19-0 ISOBUTYL ACETATE:
PEL: 700 MG/M3, 150 PPM
REL: 700 MG/M3, 150 PPM
TLV: 713 MG/M3, 150 PPM

107-87-9 METHYL PROPYL KETONE:
PEL: 700 MG/M3, 200 PPM
REL: 530 MG/M3, 150 PPM

TLV:
SHORT-TERM VALUE: 881 MG/M3, 250 PPM
LONG-TERM VALUE: 705 MG/M3, 200 PPM

112926-00-8 SILICONE DIOXIDE AMORPHOUS SYNTHETIC:

PEL:
SHORT-TERM VALUE: 80 MG/M3
AS % SiO2

REL: 6 MG/M3

TLV:
10 MG/M3
(E)

108-65-6 PM ACETATE:
WEEL: 100 PPM

PROTECTIVE HYGIENIC MEASURES:
KEEP AWAY FROM FOODSTUFFS AND ANIMAL FEED. WASH HANDS AFTER USE.

BREATHING EQUIPMENT:
A RESPIRATOR IS GENERALLY NOT NECESSARY WHEN USING THIS PRODUCT OUTDOORS OR IN LARGE OPEN AREAS. IN CASES OF INADEQUATE VENTILATION, A RESPIRATORY PROTECTIVE DEVICE SHOULD BE WORN TO PREVENT OVEREXPOSURE.

USE SUITABLE RESPIRATORY PROTECTIVE DEVICE IN CASE OF INSUFFICIENT VENTILATION.

PROTECTION OF HANDS:
PROTECTIVE GLOVES. THE GLOVE MATERIAL HAS TO BE IMPERMEABLE AND RESISTANT TO THE SUBSTANCE. NO GLOVE RECOMMENDATION CAN BE GIVEN.

EYE PROTECTION: TIGHTLY SEALED GOGGLES

## 9 PHYSICAL AND CHEMICAL PROPERTIES

top

GENERAL INFORMATION:

FORM: AEROSOL

COLOR: ACCORDING TO TRADE NAME DESCRIPTION IN SECTION 1.

ODOR: SOLVENT

BOILING POINT/BOILING RANGE:
-44 DEG. C
(-47 DEG. F)

FLASH POINT:
-19 DEG. C
(-2 DEG. F)

IGNITION TEMPERATURE:
365.0 DEG. C (689 DEG. F)

AUTO IGNITING: PRODUCT IS NOT SELF-IGNITING.

DANGER OF EXPLOSION:
STABLE AT NORMAL TEMPERATURES. CAN MAY BURST WHEN EXPOSED TO TEMPERATURES EXCEEDING 120 DEGREES FAHRENHEIT.

IN USE, MAY FORM FLAMMABLE/EXPLOSIVE VAPOR-AIR MIXTURE.

LOWER EXPLOSION LIMIT: 1.7 VOL %
UPPER EXPLOSION LIMIT: 10.9 VOL %

VAPOR PRESSURE: 40 PSI, 2750 HPA

DENSITY: NOT DETERMINED.

SPECIFIC GRAVITY: BETWEEN 0.77 AND 0.90 (WATER EQUALS 1.00)

VOC CONTENT: 339.9 G/L / 2.84 LB/GL

VOC IN WEIGHT PERCENT (LESS ACETONE): 34.0%

SOLIDS CONTENT: 23.5%

## 10 STABILITY AND REACTIVITY

top

CONDITIONS TO BE AVOIDED:
DO NOT ALLOW THE CAN TO EXCEED 120 DEGREES FAHRENHEIT.
STABLE AT NORMAL TEMPERATURES.

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN.

## 11 TOXICOLOGICAL INFORMATION

top

PRIMARY EFFECT ON THE SKIN: NO IRRITANT EFFECT.

PRIMARY EFFECT ON THE EYE: IRRITATING EFFECT.

SENSITIZATION: NO SENSITIZING EFFECTS KNOWN.

## 12 ECOLOGICAL INFORMATION

top

OTHER INFORMATION:
THIS PRODUCT DOES NOT CONTAIN ANY CHLOROFLOUROCARBONS (CFC'S),CHLORINATED SOLVENTS, OR HEAVY METALS (LEAD, MERCURY, CADMIUM, ETC.). NO SPECIFIC ECOLOGICAL DATA IS AVAILABLE FOR THIS PRODUCT.

## 13 DISPOSAL CONSIDERATIONS

top

DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
DO NOT PUNCTURE, INCINERATE, OR COMPACT.

PARTIALLY EMPTY CANS MUST BE DISPOSED OF RESPONSIBLY. DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCHES.

RECOMMENDATION: EMPTY CANS SHOULD BE RECYCLED.

## 14 TRANSPORT INFORMATION

top

HAZARD CLASS: 2.1

IDENTIFICATION NUMBER: N/A

LABEL: 2.1

ADR/RID CLASS: 2 5F GASES

UN-NUMBER: 1950

IMDG CLASS: 2

PACKAGING GROUP: II

EMS NUMBER: F-D,S-U

MARINE POLLUTANT: NO

ICAO/IATA CLASS: 2.1

PROPPER SHIPPING NAME: AEROSOLS, FLAMMABLE CONSUMER COMMODITY ORM-D

## 15 REGULATIONS

top

SARA SECTION 355 (EXTREMELY HAZARDOUS SUBSTANCES):
NONE OF THE INGREDIENTS IN THIS PRODUCT ARE LISTED.

SARA SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTINGS):
NONE OF THE INGREDIENTS IS LISTED.

TSCA (TOXIC SUBSTANCES: CONTROL ACT): ALL INGREDIENTS ARE LISTED.

PROPOSITION 65 CHEMICALS KNOWN TO CAUSE CANCER:

100-41-4  ETHYL BENZENE

PROPOSITION 65:

CHEMICALS KNOWN TO CAUSE DEVELOPMENTAL TOXICITY:
108-88-3
TOLUENE

CANADIAN WHMIS: CLASS A, B5 - FLAMMABLE AEROSOLS

EPA:
A=KNOWN HUMAN CARCINOGEN
B=PROBABLE HUMAN CARCINOGEN
C=POSSIBLE HUMAN CARCINOGEN
D=NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY:
INADEQUATE HUMAN AND ANIMAL EVIDENCE OF CARCINOGENICITY (OR NO DATA IS AVAILABLE).

| | | |
|---|---|---|
| 110-19-0 | ISOBUTYL ACETATE | D |

IARC:
GROUP 2B:
THE INGREDIENT IS POSSIBLY CARCINOGENIC TO HUMANS. THERE IS LIMITED EVIDENCE OF CARCINOGENICITY.

GROUP 3:
THE INGREDIENT IS UNCLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS.

| | | |
|---|---|---|
| 13463-67-7 | TITANIUM DIOXIDE | 2B |
| 112926-00-8 | SILICONE DIOXIDE AMORPHOUS SYNTHETIC | 3 |

ACGIH TLVS:
A1-DESIGNATES A CONFIRMED HUMAN CARCINOGEN.
A2-DESIGNATES A SUSPECTED HUMAN CARCINOGEN.
A3-DESIGNATES AN ANIMAL CARCINOGEN.
A4-DESIGNATES "NOT CLASSIFIABLE AS A HUMAN CARCINOGEN".

| | | |
|---|---|---|
| 13463-67-7 | TITANIUM DIOXIDE | A4 |
| 110-19-0 | ISOBUTYL ACETATE | A4 |

NIOSH:

| | |
|---|---|
| 13463-67-7 | TITANIUM DIOXIDE |

USDA (UNITED STATES DEPARTMENT OF AGRICULTURE):
THIS PRODUCT WAS MANUFACTURED TO CONFORM TO THE USDA FOOD SAFETY AND INSPECTION SERVICE PERFORMANCE STANDARDS. THESE STANDARDS INCLUDE, BUT ARE NOT LIMITED TO, THE ABILITY OF THIS PRODUCT TO BE SAFE FOR USE IN OFFICIAL MEAT AND POULTRY ESTABLISHMENTS, AND TO PERFORM WELL UNDER A DAILY REGIMEN OF THOROUGH CLEANING, CYCLICAL TEMPERATURE CHANGE, AND WET CONDITIONS.

## 16 OTHER INFORMATION

top

THIS INFORMATION IS BASED ON OUR PRESENT KNOWLEDGE. HOWEVER, THIS SHALL NOT CONSTITUTE A GUARANTEE FOR ANY SPECIFIC PRODUCT FEATURES AND SHALL NOT ESTABLISH A LEGALLY VALID CONTRACTUAL RELATIONSHIP.

CONTACT: REGULATORY AFFAIRS

USA

| | |
|---|---|
| Common Name: | DEM-KOTE GLOSS WHITE, GR06MT5400 |
| Manufacturer: | SEYMOUR OF SYCAMORE |
| MSDS Revision Date: | 6/21/2006 |
| MSDS Format: | No Format Specified |

| | |
|---|---|
| Grainger Item Number(s): | 6MT54 |
| Manufacturer Model Number(s): | GR06MT5400 |

## MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.



S(R*)
SEYMOUR(R*)

MATERIAL SAFETY DATA SHEET

ACC. TO ISO/DIS 11014

PRINTING DATE: 06/23/2006

REVIEWED ON: 06/21/2006

## 1 IDENTIFICATION OF SUBSTANCE

top

TRADE NAME: DEM-KOTE GLOSS WHITE

PRODUCT CODE: GR06MT5400

MANUFACTURER/SUPPLIER:
MANUFACTURED FOR:
GRAINGER INDUSTRIAL SUPPLY
100 GRAINGER PARKWAY
LAKE FOREST, IL 60045
1-847-535-5400

INFORMATION DEPARTMENT: HEALTH & SAFETY DEPARTMENT

EMERGENCY INFORMATION:
CHEMTEL: 1-800-255-3924, 813-248-0585 IF LOCATED OUTSIDE THE U.S.

## 2 COMPOSITION / DATA ON COMPONENTS

top

CHEMICAL DESCRIPTION:
THIS PRODUCT IS A MIXTURE OF THE SUBSTANCES LISTED BELOW WITH NONHAZARDOUS ADDITIONS.

DANGEROUS COMPONENTS:

| | | |
|---|---|---|
| 67-64-1 | ACETONE | 33.6% |
| 74-98-6 | PROPANE | 15.71% |
| 108-88-3 | TOLUENE | 10.55% |
| 106-97-8 | n-BUTANE | 9.22% |
| 13463-67-7 | TITANIUM DIOXIDE | 8.3% |
| 107-87-9 | METHYL PROPYL KETONE | 3.89% |
| 110-19-0 | ISOBUTYL ACETATE | 2.74% |
| 2807-30-9 | GLYCOL ETHER EP | 1.38% |

ADDITIONAL INFORMATION:
FOR THE WORDING OF THE LISTED RISK PHRASES REFER TO SECTION 3.

## 3 HAZARDS IDENTIFICATION

top

HAZARD DESCRIPTION:
IRRITANT
EXTREMELY FLAMMABLE

PHYSICAL DANGERS:
HAS A NARCOTIZING EFFECT.

DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR IN A PRESSURIZED CONTAINER. VAPORS MAY CAUSE FLASH FIRE.
KEEP AWAY FROM HEAT, SPARKS, AND FLAME.
EXTREMELY FLAMMABLE.
IRRITATING TO EYES AND RESPIRATORY SYSTEM.
VAPORS MAY CAUSE DROWSINESS AND DIZZINESS
KEEP OUT OF THE REACH OF CHILDREN.

EFFECTS OF SHORT-TERM OVEREXPOSURE:
VAPORS CAUSE IRRITATION TO THE EYES, NOSE, THROAT, SKIN, AND CENTRAL NERVOUS SYSTEM. SYMPTOMS MAY INCLUDE DIZZINESS, THROAT IRRITATION, HEADACHE, FATIGUE, SWELLING OF EYES, AND NAUSEA.

EFFECTS OF CHRONIC OVEREXPOSURE:
MAY CAUSE PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. REPEATED OVEREXPOSURE CAN ALSO DAMAGE KIDNEYS, LUNGS, LIVER, HEART, AND BLOOD. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

NFPA RATINGS (SCALE 0 - 4):
HEALTH 1
FIRE 4
REACTIVITY 3

HMIS-RATINGS (SCALE 0 - 4):
HEALTH 1
FIRE 4

PHYSICAL HAZARD 3

## 4 FIRST AID MEASURES

top

AFTER INHALATION: IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN.

AFTER SKIN CONTACT:
REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH SOAP AND WATER.

AFTER EYE CONTACT:
MOVE TO FRESH AIR. RINSE OPENED EYE FOR SEVERAL MINUTES UNDER RUNNING WATER. IF SYMPTOMS PERSIST, CONSULT A DOCTOR.

AFTER SWALLOWING: CONTACT PHYSICIAN OR POISON CONTROL CENTER.

## 5 FIRE FIGHTING MEASURES

top

EXTINGUISHING AGENTS:
CO2, SAND, EXTINGUISHING POWDER, OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM.

PROTECTIVE EQUIPMENT: NO SPECIAL MEASURES REQUIRED.

## 6 ACCIDENTAL RELEASE MEASURES

top

PERSONAL SAFETY PRECAUTIONS:
WEAR PROTECTIVE EQUIPMENT. KEEP UNPROTECTED PERSONS AWAY.

ENVIRONMENTAL SAFETY PRECAUTIONS:
DO NOT ALLOW PRODUCT TO REACH SEWAGE SYSTEMS OR GROUND WATER.
INFORM APPROPRIATE AUTHORITIES IN CASE OF SEEPAGE INTO WATER COURSE OR SEWAGE SYSTEM.

MEASURES FOR CLEANING/COLLECTING:
DO NOT FLUSH WITH WATER OR AQUEOUS CLEANSING AGENTS. USE DILUTED CAUSTIC SOLUTION. SOAK UP SPILLS WITH INERT ABSORBENT MATERIAL. REFER TO SECTION 13 FOR DISPOSAL INFORMATION.

## 7 HANDLING AND STORAGE

top

FIRE/EXPLOSION PROTECTION:
DO NOT SPRAY ON A NAKED FLAME OR ANY INCANDESCENT MATERIAL.
DO NOT SMOKE. PROTECT FROM ELECTROSTATIC CHARGES.

STORAGE REQUIREMENTS:
OBSERVE PRESSURIZED CONTAINER STORAGE REGULATIONS. CONSULT WITH YOUR LOCAL AUTHORITIES.

KEEP AWAY FROM SOURCES OF HEAT AND DIRECT SUNLIGHT. DO NOT WAREHOUSE IN SUBFREEZING CONDITIONS.

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

top

COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:

74-98-6 PROPANE:
PEL: 1800 MG/M3, 1000 PPM

REL: 1800 MG/M3, 1000 PPM
TLV: (4508) MG/M3, (2500) PPM

106-97-8 n-BUTANE:
REL: 1900 MG/M3, 800 PPM
TLV: 1900 MG/M3, 800 PPM

107-87-9 METHYL PROPYL KETONE:
PEL: 700 MG/M3, 200 PPM
REL: 530 MG/M3, 150 PPM

TLV:
SHORT-TERM VALUE: 881 MG/M3, 250 PPM
LONG-TERM VALUE: 705 MG/M3, 200 PPM

110-19-0 ISOBUTYL ACETATE:
PEL: 700 MG/M3, 150 PPM
REL: 700 MG/M3, 150 PPM
TLV: 713 MG/M3, 150 PPM

PROTECTIVE HYGIENIC MEASURES:
KEEP AWAY FROM FOODSTUFFS AND ANIMAL FEED. WASH HANDS AFTER USE.

BREATHING EQUIPMENT:
A RESPIRATOR IS GENERALLY NOT NECESSARY WHEN USING THIS PRODUCT OUTDOORS OR IN LARGE OPEN AREAS. IN CASES OF INADEQUATE VENTILATION, A RESPIRATORY PROTECTIVE DEVICE SHOULD BE WORN TO PREVENT OVEREXPOSURE.

USE SUITABLE RESPIRATORY PROTECTIVE DEVICE IN CASE OF INSUFFICIENT VENTILATION.

PROTECTION OF HANDS:
PROTECTIVE GLOVES. THE GLOVE MATERIAL HAS TO BE IMPERMEABLE AND RESISTANT TO THE SUBSTANCE. NO GLOVE RECOMMENDATION CAN BE GIVEN.

EYE PROTECTION: TIGHTLY SEALED GOGGLES

## 9 PHYSICAL AND CHEMICAL PROPERTIES

top

GENERAL INFORMATION:
FORM: AEROSOL
COLOR: ACCORDING TO TRADE NAME DESCRIPTION IN SECTION 1.
ODOR: SOLVENT

BOILING POINT/BOILING RANGE: -44 DEG. C (-47 DEG. F)

FLASH POINT: -19 DEG. C (-2 DEG. F)

IGNITION TEMPERATURE: 365.0 DEG. C (689 DEG. F)

AUTO IGNITING: PRODUCT IS NOT SELF-IGNITING.

DANGER OF EXPLOSION:
STABLE AT NORMAL TEMPERATURES. CAN MAY BURST WHEN EXPOSED TO TEMPERATURES EXCEEDING 120 DEGREES FAHRENHEIT.

IN USE, MAY FORM FLAMMABLE/EXPLOSIVE VAPOR-AIR MIXTURE.

LOWER EXPLOSION LIMIT: 1.7 VOL %
UPPER EXPLOSION LIMIT: 10.9 VOL %

VAPOR PRESSURE: 40 PSI, 2750 HPA

DENSITY: NOT DETERMINED.

SPECIFIC GRAVITY: BETWEEN 0.77 AND 0.90 (WATER EQUALS 1.00)

VOC CONTENT: 341.9 G/L / 2.85 LB/GL

VOC IN WEIGHT PERCENT (LESS ACETONE): 34.2%

SOLIDS CONTENT: 21.6%

## 10 STABILITY AND REACTIVITY

top

CONDITIONS TO BE AVOIDED:
DO NOT ALLOW THE CAN TO EXCEED 120 DEGREES FAHRENHEIT. STABLE AT NORMAL TEMPERATURES.

POSSIBILITY OF HAZARDOUS REACTIONS: NO DANGEROUS REACTIONS KNOWN.

## 11 TOXICOLOGICAL INFORMATION

top

PRIMARY EFFECT ON THE SKIN: NO IRRITANT EFFECT.

PRIMARY EFFECT ON THE EYE: IRRITATING EFFECT.

SENSITIZATION: NO SENSITIZING EFFECTS KNOWN.

## 12 ECOLOGICAL INFORMATION

top

OTHER INFORMATION:
THIS PRODUCT DOES NOT CONTAIN ANY CHLOROFLOUROCARBONS (CFC'S), CHLORINATED SOLVENTS, OR HEAVY METALS (LEAD, MERCURY, CADMIUM, ETC.). NO SPECIFIC ECOLOGICAL DATA IS AVAILABLE FOR THIS PRODUCT.

## 13 DISPOSAL CONSIDERATIONS

top

DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. DO NOT PUNCTURE, INCINERATE, OR COMPACT. PARTIALLY EMPTY CANS MUST BE DISPOSED OF RESPONSIBLY. DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCHES.

RECOMMENDATION: EMPTY CANS SHOULD BE RECYCLED.

## 14 TRANSPORT INFORMATION

top

HAZARD CLASS: 2.1

IDENTIFICATION NUMBER: N/A

LABEL: 2.1

ADR/RID CLASS: 2 5F GASES

UN-NUMBER: 1950

IMDG CLASS: 2

PACKAGING GROUP: II

EMS NUMBER: F-D, S-U

MARINE POLLUTANT: NO

ICAO/IATA CLASS: 2.1

PROPER SHIPPING NAME:
AEROSOLS, FLAMMABLE
CONSUMER COMMODITY ORM-D

## 15 REGULATIONS

top

SARA SECTION 355 (EXTREMELY HAZARDOUS SUBSTANCES):
NONE OF THE INGREDIENTS IN THIS PRODUCT ARE LISTED.

SARA SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTINGS):
NONE OF THE INGREDIENTS IS LISTED.

TSCA (TOXIC SUBSTANCES CONTROL ACT): ALL INGREDIENTS ARE LISTED.

PROPOSITION 65 CHEMICALS KNOWN TO CAUSE CANCER:

100-41-4 ETHYL BENZENE

PROPOSITION 65:

CHEMICALS KNOWN TO CAUSE DEVELOPMENTAL TOXICITY:

108-88-3 TOLUENE

CANADIAN WHMIS: CLASS A, B5 - FLAMMABLE AEROSOLS

EPA:
A=KNOWN HUMAN CARCINOGEN
B=PROBABLE HUMAN CARCINOGEN
C=POSSIBLE HUMAN CARCINOGEN
D=NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY:
INADEQUATE HUMAN AND ANIMAL EVIDENCE OF CARCINOGENICITY (OR NO DATA IS AVAILABLE).

| | | |
|---|---|---|
| 110-19-0 | ISOBUTYL ACETATE | D |

IARC:
GROUP 2B:
THE INGREDIENT IS POSSIBLY CARCINOGENIC TO HUMANS. THERE IS LIMITED EVIDENCE OF CARCINOGENICITY.

GROUP 3:
THE INGREDIENT IS UNCLASSIFIABLE AS TO ITS CARCINOGENICITY TO HUMANS.

| | | |
|---|---|---|
| 13463-67-7 | TITANIUM DIOXIDE | 2B |

ACGIH TLVS:
A1-DESIGNATES A CONFIRMED HUMAN CARCINOGEN.
A2-DESIGNATES A SUSPECTED HUMAN CARCINOGEN.
A3-DESIGNATES AN ANIMAL CARCINOGEN.
A4-DESIGNATES "NOT CLASSIFIABLE AS A HUMAN CARCINOGEN".

| | | |
|---|---|---|
| 13463-67-7 | TITANIUM DIOXIDE | A4 |
| 110-19-0 | ISOBUTYL ACETATE | A4 |

NIOSH:

13463-67-7 TITANIUM DIOXIDE

USDA (UNITED STATES DEPARTMENT OF AGRICULTURE):

THIS PRODUCT WAS MANUFACTURED TO CONFORM TO THE USDA FOOD SAFETY AND INSPECTION SERVICE PERFORMANCE STANDARDS. THESE STANDARDS INCLUDE, BUT ARE NOT LIMITED TO, THE ABILITY OF THIS PRODUCT TO BE SAFE FOR USE IN OFFICIAL MEAT AND POULTRY ESTABLISHMENTS, AND TO PERFORM WELL UNDER A DAILY REGIMEN OF THOROUGH CLEANING, CYCLICAL TEMPERATURE CHANGE, AND WET CONDITIONS.

## 16 OTHER INFORMATION

top

THIS INFORMATION IS BASED ON OUR PRESENT KNOWLEDGE. HOWEVER, THIS SHALL NOT CONSTITUTE A GUARANTEE FOR ANY SPECIFIC PRODUCT FEATURES AND SHALL NOT ESTABLISH A LEGALLY VALID CONTRACTUAL RELATIONSHIP.

CONTACT: CRAIG SWAFFORD, REGULATORY AFFAIRS.

EMAIL: CSWAFFORD@SEYMOURPAINT.COM

USA

Anachemia

# Material Safety Data Sheet

**EMERGENCY NUMBERS:**

**(USA) CHEMTREC : 1(800) 424-9300 (24hrs)**
**(CAN) CANUTEC : 1(613) 996-6666 (24hrs)**
**(USA) Anachemia : 1(518) 297-4444**
**(CAN) Anachemia : 1(514) 489-5711**

| WHMIS | Protective Clothing | TDG Road/Rail |
|---|---|---|
| WHMIS CLASS: D-1B D-2A D-2B | | TDG CLASS: 6.1<br>PIN: UN1593 PG: III |
|  |  |  |

## Section I. Product Identification and Uses

| | |
|---|---|
| **Product name** | **DICHLOROMETHANE** |
| **Chemical formula** | CH2Cl2 |
| **Synonyms** | Methylene chloride, Methylene dichloride, AC-3172, AC-3172PG, AC-3172SC, AC-3172T, GD-3170, GD-3171, GD-3172, M-11126, M-13386, 32667, 32679, 32652, 32648, 32655, |
| **Supplier** | Anachemia Canada.<br>255 Norman.<br>Lachine (Montreal), Que<br>H8R 1A3 |
| **Material uses** | For laboratory use only. |

| | |
|---|---|
| **CI#** | Not available. |
| **CAS#** | 75-09-2 |
| **Code** | AC-3172 |
| **Formula weight** | 84.93 |
| **Supersedes** | |

## Section II. Ingredients

| Name | CAS # | % | TLV |
|---|---|---|---|
| 1) DICHLOROMETHANE | 75-09-2 | 60-100 | Exposure limits: ACGIH TWA 50 ppm (174 mg/m3) |

**Toxicity values of the hazardous ingredients**

DICHLOROMETHANE:
ORAL (LD50): Acute: 1600 mg/kg (Rat). 873 mg/kg (Mouse).
VAPOR (LC50): Acute: 52000 mg/m3 (Rat). 14400 mg/m3 (Mouse) (7 hour(s)).

## Section III. Physical Data

| | |
|---|---|
| **Physical state and appearance / Odor** | Clear, colorless liquid with characteristic odor. |
| **pH (1% soln/water)** | Not available. |
| **Odor threshold** | 150-300 ppm |
| **Percent volatile** | 100% (V/V) |
| **Freezing point** | -96.7°C |
| **Boiling point** | 39.8 to 41°C |
| **Specific gravity** | 1.329 (Water = 1) |
| **Vapor density** | 2.93 (Air = 1) |
| **Vapor pressure** | 349 (420) mm Hg @ 20°C (25°C) |
| **Water/oil dist. coeff.** | 0.0 |
| **Evaporation rate** | 27.5 (n-Butyl acetate = 1). |
| **Solubility** | 2% (in H2O) |

## Section IV. Fire and Explosion Data

| | |
|---|---|
| **Flash point** | No flash point in conventional closed tester. Vapors can burn in air above 100°C. |
| **Flammable limits** | LOWER: 12% UPPER: 25% |
| **Auto-ignition temperature** | 556°C |
| **Fire degradation products** | Oxides of carbon (CO, CO2), chlorine, hydrogen chloride, phosgene. |
| **Fire extinguishing procedures** | Use extinguishing media suitable for surrounding materials. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Disperse vapors with water spray if they have not ignited. Cool containing vessels with flooding quantities of water until well after fire is out. |
| **Fire and Explosion Hazards** | Dichloromethane vapors concentrated in a poorly ventilated area can be ignited upon contact with a high intensity source of heat. Vapor forms explosive mixture with air. The sensitivity to static discharge is not available. The sensitivity to impact is not available. Emits toxic fumes under fire conditions. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Routes of entry** | Inhalation and ingestion. Eye contact. Skin contact. Skin absorption. |
| **Effects of Acute Exposure** | Harmful by ingestion, inhalation or skin absorption. Irritant. Dichloromethane is metabolized to carbon monoxide which reduces the blood's ability to carry oxygen (carboxyhemoglobinemia). May be fatal. Target organs: skin, cardiovascular system, eyes, central nervous system, (in animals: lung, liver, salivary gland and mammary gland tumors). 2300 ppm (DICHLOROMETHANE) is immediately dangerous to life or health. |
| **Eye** | Irritation, corneal burns, conjunctivitis and possible corneal damage. |
| **Skin** | Causes irritation, defatting, drying, and craking of the skin. Possibility of skin burns if not removed rapidly. May cause dermatitis. May be absorbed through the skin. |
| **Inhalation** | Vapors are irritating to the nose, throat and respiratory tract. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death. Minimal anaesthetic or narcotic effects may be seen in the range of 500-1000 ppm dichloromethane. May cause cyanosis, central nervous system depression, cardiac arrythmia, systemic poisoning, and asphyxiation. Excessive exposure may cause carboxyhemoglobinemie, thereby impairing the blood's ability to transport oxygen. See ingestion. |
| **Ingestion** | May cause irritation and burning of the mouth, throat and respiratory tract. May cause cyanosis, abdominal pain, central nervous system depression (headache, nausea, vomiting, drowsiness, weakness, dyspnea, incoordination, etc..), cardiac arrythmia, liver and kidney damage, and systemic poisoning and death possible. Guard against aspiration into lungs (may cause chemical pneumonitis which can be fatal). |

## Section V. Toxicological Properties

| | |
|---|---|
| **Effects of Chronic Overexposure** | May cause carboxyhemoglobinemia, encephalopathy, central nervous system depression, liver, kidney, lung, blood, skin, eye and pancreas damage. Animal: causes cancer of the lungs, liver, salivary and mammary glands. Potential carcinogen. IARC: 2B Possibly carcinogenic to humans. ACGIH: A3 Confirmed animal carcinogen with unknown relevance to humans. Possible mutagen. Human: passes through the placenta, excreted in maternal milk. In vitro studies in mammal cells have shown mutagenic action. Dichloromethane can cause adverse effects on the blood. These effects include blood in the urine, anemia, and carboxyhemoglobinemia caused by metabolism of dichloromethane to carbon dioxide in the blood. Initial manifestation of carboxyhemoglobinemia is cyanosis, characterized by cherry-red lips, tongue and mucous membranes and jaundice. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge the chronic toxicity of this substance has not been fully investigated. |

## Section VI. First Aid Measures

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with large amounts of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Obtain immediate medical attention. |
| **Skin contact** | Immediately flush skin with plenty of water and soap for at least 20 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reusing. |
| **Inhalation** | Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Seek immediate medical attention. Do not give vasopressor drugs (epinephrine, adrenaline, ephedrine, etc...) as there may be damger of cardiac arrythmia. |
| **Ingestion** | DO NOT induce vomiting. If conscious, wash out mouth with water. Immediately transport victime to an emergency facility. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus. Emergency Medical Care: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs unless absolutely necessary. If burn is present, treat as any thermal burn, after decontamination. There is no specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient. Carboxyhemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. |

## Section VII. Reactivity Data

| | |
|---|---|
| **Stability** | Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination. |
| **Hazardous decomp. products** | Hydrogen chloride, chlorine, phosgene. |
| **Incompatibility** | Oxidizing agents, bases, alkali metals such as potassium and sodium, metals such as zinc, aluminum, and magnesium, powdered metals, reducing agents, nitric acid, amines, aluminum trichloride, nitrogen trioxide, ethylene, acids may cause fires and explosions. May attack some forms of plastics, rubbers and coatings. |
| **Reaction Products** | May react violently with metals such as sodium, potassium and barium, particularly if they are finely divided. Hydrolysis producing small amounts of hydrochloric acid is possible with gross water contamination. Hazardous polymerization will not occur. |

## Section VIII. Preventive Measures

**Protective Clothing in case of spill and leak**: Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.

**Spill and leak**: Evacuate the area. Eliminate all sources of ignition. Absorb on sand or vermiculite and place in a closed container for disposal. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Stay upwind: Keep out of low areas. Prevent entry into sewers, basements or confined areas; dike if needed.

**Waste disposal**: Dispose of waste material at an approved (hazardous) waste treatment/ disposal facility in accordance with applicable local, provincial and federal regulations. This material and its container must be disposed of in a safe way. Harmful to aquatic life at low concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

**Storage and Handling**: Keep at temperature not exceeding 25°C. Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear suitable protective clothing. Do not use pressure to dispense. Do not use handling equipment or containers composed of magnesium, aluminum or their alloys. Protect from moisture. Watch for accumulation in low confined areas. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.).

## Section IX. Protective Measures

**Protective clothing**: Splash goggles. Impervious vitron gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Prior to use, user should confirm impermeability. A NIOSH/MSHA-approved air-purifying respirator equipped with organic vapor cartridges for concentrations up to 50 ppm. An air-supplied respirator if concentrations are higher or unkown. Have available and use as appropriate: face shields, rubber suits, aprons, and boots. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.

**Engineering controls**: Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Do not use in unventilated spaces. Vapors are heavier than air and may travel along the ground or pool in low areas. Because vapor is heavy, ventilation must be provided at floor level as well as at higher levels.

## Section X. Other Information

**Special Precautions or comments**: Toxic! Carcinogen! Mutagen! Neurotoxic! Severe irritant! Possible risks of irreversible effects. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Keep away from heat, sparks and flame. Do not use handling equipment or containers composed of magnesium, aluminum, zinc or their alloys. Handle and open container with care. Container should be opened only by a technically qualified person.
Synergistic materials: Exposure to a combination of carbon monoxide and methylene chloride must be limited.; Alcohols may interact synergistically with chlorinated solvents (example: carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example: disulfiram), dimethylnitrosamine and thioacetamide. Exposure to and/or consumption of alcohol may increase toxic effects.
RTECS NO: PA8050000 (Dichloromethane).


NFPA

**Prepared by MSDS Department/Département de F.S..**

**Validated 03-Dec-2012**

# DIESEL FUEL

MATERIAL SAFETY DATA SHEET

NATIONAL COOPERATIVE REFINERY ASSOCIATION
(NCRA)
BOX 1404 MCPHERSON, KS 67460
316-241-2344 OR 2345, PRODUCT INFORMATION, S. G. CATER

**EMERGENCY CONTACT: CHEMTREC 1-800-424-9300 - USE ONLY IN THE CASE OF EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT INVOLVING CHEMICALS.**

## SUBSTANCE IDENTIFICATION

| | |
|---|---|
| SUBSTANCE: | DIESEL FUEL |
| CHEMICAL FAMILY: | PETROLEUM HYDROCARBON |
| CAS NUMBER: | 68334-30-5 |
| TRADE NAMES/SYNONYMS: | DIESEL OIL; DIESEL FUEL; DIESEL OIL, LIGHT; DIESEL OIL PETROLEUM PRODUCT; DIESEL FUEL, NO. 1-D; NO. 1-D FUEL OIL; PETROLEUM DIESEL OIL PRODUCT; SUMMER DIESEL; DIESEL FUEL #1. |
| CERCLA RATINGS (SCALE 0-3): | HEALTH = 1 FIRE = 2 REACTIVITY = 0 PERSISTENCE = 1 |
| NFPA RATINGS (SCALE 0-4): | HEALTH = 0 FIRE = 2 REACTIVITY = 0 |

## COMPONENTS AND CONTAMINANTS

| HAZARDOUS INGREDIENTS | CAS NUMBER | PERCENT |
|---|---|---|
| DIESEL FUEL | 68334-30-5 | >99 |
| MAY INCLUDE TRACES OF SULFUR | | |
| HYDROGEN SULFIDE | 7783-06-4 | |

**EXPOSURE LIMIT:**

| | |
|---|---|
| **MINERAL OIL MIST:** | 5 MG/M$^3$ OSHA TWA<br>5 MG/M$^3$ ACGIH TWA<br>10 MG/M$^3$ ACGIH STEL<br>5 MG/M$^3$ NIOSH RECOMMENDED TWA<br>10 MG/M$^3$ NIOSH RECOMMENDED STEL |
| MEASUREMENT METHOD: | PARTICULATE FILTER; 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE; INFRARED SPECTROMETRY; (NIOSH VOL. III #5026). |
| **HYDROGEN SULFIDE:** | 10 PPM (14 MG/M$^3$) OSHA TWA<br>15 PPM (21 MG/M$^3$) OSHA STEL<br>10 PPM (14 MG/M$^3$) ACGIH TWA<br>15 PPM (21 MG/M$^3$) ACGIH STEL<br>10 PPM NIOSH RECOMMENDED 10-MINUTE CEILING<br>10 PPM (14 MG/M$^3$) DFG MAK TWA<br>20 PPM (28 MG/M$^3$) DFG MAK 10-MINUTE PEAK MOMENTARY VALUE: 4 TIMES/SHIFT |
| MEASUREMENT METHOD: | DRYING TUBE/MOLECULAR SIEVE TUBE; THERMAL DESORPTION APPARATUS; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. II(6) #296). |

## PHYSICAL DATA

| | |
|---|---|
| DESCRIPTION: | YELLOW-BROWN, OILY LIQUID WITH A MILD PETROLEUM ODOR. |
| SOLUBILITY IN WATER: | INSOLUBLE |
| SPECIFIC GRAVITY: | 0.80 |
| VAPOR PRESSURE: | 2 MM HG @ 20 C |
| VAPOR DENSITY: | >1 AIR = 1.0 |
| BOILING POINT: | 325 - 675 F (163 - 357 C) |
| MELTING POINT: | -30 F (-34 C) |

## FIRE AND EXPLOSION DATA

| | |
|---|---|
| FIRE AND EXPLOSION HAZARD: | MODERATE FIRE HAZARD WHEN EXPOSED TO HEAT AND FLAME.<br><br>VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. |

VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.

FLASH POINT: 100 F (38 C) (CC)

UPPER EXPLOSIVE LIMIT: 6.0 %

LOWER EXPLOSIVE LIMIT: 1.3 %

AUTOIGNITION TEMP.: 350 F (177 C)

OSHA FLAMMABILITY CLASS: II

FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHDRAW FROM AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR, OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 27).

EXTINGUISH ONLY IF FLOW CAN BE STOPPED. USE FLOODING AMOUNTS OF WATER AS FOG, SOLID STREAMS MAY BE INEFFECTIVE. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER. APPLY WATER FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING VAPORS, KEEP UPWIND.

## TRANSPORTATION DATA

DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: COMBUSTIBLE LIQUID

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: NONE

DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: NONE
EXCEPTIONS: 49 CFR 173.118(A)

FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181C, HM-181D, AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90).

EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)

| | |
|---|---|
| U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: | DIESEL FUEL-NA 1993 |
| U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: | 3 - FLAMMABLE LIQUID |
| U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: | PG III |
| U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: | NONE |
| U.S. DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: | |
| EXCEPTIONS: | 49 CFR 173.150 |
| NON-BULK PACKAGING: | 49 CFR 173.203 |
| BULK PACKAGING: | 49 CFR 173.241 |
| U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS, 49 CFR 172.101: | |
| PASSENGER AIRCRAFT OR RAILCAR: | 60 L |
| CARGO AIRCRAFT ONLY: | 220 L |

## TOXICITY

**DIESEL FUEL**

| | |
|---|---|
| IRRITATION DATA: | 500 MG SKIN-RABBIT MODERATE. |
| TOXICITY DATA: | 9 GM/KG ORAL-RAT LD50; 7.5 GM/KG (MARKET PLACE SAMPLE) ORAL-RAT LD50 (AETODY); >5 ML/KG (MARKET PLACE SAMPLE) SKIN-RABBIT LD50 (AETODY). |
| CARCINOGEN STATUS: | HUMAN INADEQUATE EVIDENCE, ANIMAL LIMITED EVIDENCE (IARC-GROUP 3). (SEE ADDITIONAL DATA). |
| LOCAL EFFECTS: | IRRITANT - INHALATION, SKIN. |
| ACUTE TOXICITY LEVEL: | SLIGHTLY TOXIC BY DERMAL ABSORPTION; RELATIVELY NON-TOXIC BY INGESTION. |

TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT. POISONING MAY ALSO AFFECT THE LIVER AND KIDNEYS.

ADDITIONAL DATA: ANIMAL STUDIES HAVE CONFIRMED AN ASSOCIATION BETWEEN THE INDUCTION OF CANCER, PRIMARILY OF THE LUNG, AND INHALATION EXPOSURE TO WHOLE DIESEL EXHAUST. LIMITED EPIDEMIOLOGIC EVIDENCE ALSO SUGGESTS AN ASSOCIATION BETWEEN OCCUPATIONAL EXPOSURE TO DIESEL ENGINE EMISSIONS AND LUNG CANCER (NIOSH, 1988).

## HEALTH EFFECTS AND FIRST AID

**INHALATION:**

**DIESEL FUEL:** IRRITANT/NARCOTIC.

ACUTE EXPOSURE: VAPORS OR MIST MAY CAUSE RESPIRATORY TRACT IRRITATION. A HUMAN EXPOSURE HAS RESULTED IN IMMEDIATE COUGH, DYSPNEA, CYANOSIS AND UNCONSCIOUSNESS FOR ONE HOUR. A PRODUCTIVE COUGH WITH SPUTUM SMELLING OF DIESEL FUEL PERSISTED FOR 37 DAYS. CHEST X-RAYS SHOWED DIFFUSE SHADOWING, MOST PROMINENT AT THE LUNG BASES, WHICH RESOLVED SLOWLY WITH TREATMENT BUT WAS STILL PRESENT AT DAY 37. HIGH LEVELS MAY ALSO CAUSE CENTRAL NERVOUS SYSTEM EXCITATION FOLLOWED BY DEPRESSION WITH SYMPTOMS POSSIBLY INCLUDING RESTLESSNESS, CONFUSION, ATAXIA, HEADACHE, DIZZINESS, ANOREXIA, NAUSEA, VOMITING, WEAKNESS, INCOORDINATION, STUPOR, DELIRIUM, AND COMA.

CHRONIC EXPOSURE: PROLONGED OR REPEATED EXPOSURE MAY CAUSE IRRITATION. ONE INDIVIDUAL EXPOSED TO DIESEL VAPORS IN A TRUCK CAB DEVELOPED NEPHROTOXIC EFFECTS.

FIRST AID: REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.

**SKIN CONTACT:**

**DIESEL FUEL:** IRRITANT.

ACUTE EXPOSURE: MAY CAUSE SMARTING, REDNESS AND IRRITATION. A SAMPLE OF DIESEL FUEL APPLIED TO RABBITS UNDER A PATCH FOR 24 HOURS CAUSED EXTREME IRRITATION WITH SEVERE ERYTHEMA AND EDEMA WITH BLISTERING AND OPEN SORES.

CHRONIC EXPOSURE: REPEATED OR PROLONGED EXPOSURE MAY CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SEVERE IRRITATION AND DERMATITIS. CUTANEOUS HYPERKERATOSIS HAS BEEN DESCRIBED IN ENGINE DRIVERS WITH OCCUPATIONAL EXPOSURE TO DIESEL FUEL. TWO INDIVIDUALS WITH TOPICAL EXPOSURE FROM WASHING HAIR OR HANDS WITH DIESEL FUEL DEVELOPED ACUTE RENAL FAILURE; ONE ALSO HAD GASTROINTESTINAL SYMPTOMS. REPEATED APPLICATIONS TO RABBIT SKIN PRODUCED 67 % MORTALITY AT 8 ML/KG. THE PRIMARY CAUSE OF DEATH WERE DEPRESSION AND ANOREXIA WHICH WERE INDUCED BY DERMAL IRRITATION WITH INFECTION, RATHER THAN SYSTEMIC INTOXICATION. AUTOPSY REVEALED EFFECTS ON THE LIVER AND KIDNEYS.

FIRST AID: REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15 - 20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

**EYE CONTACT:**

**DIESEL FUEL:**

ACUTE EXPOSURE: LIQUID OR VAPOR MAY CAUSE SLIGHT IRRITATION, ALTHOUGH TESTS WITH ONE SAMPLE OF DIESEL FUEL IN RABBIT EYES WAS NON-IRRITATING.

CHRONIC EXPOSURE: REPEATED OR PROLONGED EXPOSURE MAY CAUSE IRRITATION.

FIRST AID: WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

**INGESTION:**

**DIESEL FUEL:** NARCOTIC.

ACUTE EXPOSURE: MAY CAUSE NAUSEA, VOMITING, CRAMPING, DIARRHEA, AND POSSIBLY SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION. ASPIRATION OF EVEN SMALL AMOUNTS DURING INGESTION OR VOMITING MAY RESULT IN SEVERE PULMONARY IRRITATION WITH COUGHING, GAGGING, DYSPNEA, SUBSTERNAL DISTRESS, AND PNEUMONITIS, PULMONARY EDEMA AND HEMORRHAGE, AND DEATH.

CHRONIC EXPOSURE: NO DATA AVAILABLE.

| | |
|---|---|
| FIRST AID: | ONLY HYDROCARBONS THAT ARE SOLVENTS FOR A TOXIC AGENT OR ARE THEMSELVES TOXIC NEED TO BE EVACUATED. EXTREME CARE MUST BE TAKEN TO AVOID ASPIRATION. GASTRIC LAVAGE WITH A CUFFED ENDOTRACHEAL TUBE IN PLACE TO PREVENT FURTHER ASPIRATION SHOULD BE DONE WITHIN 15 MINUTES. IN THE ABSENCE OF DEPRESSION OR CONVULSIONS OR IMPAIRED GAG REFLEX, EMESIS CAN ALSO BE INDUCED USING SYRUP OF IPECAC WITHOUT INCREASING THE HAZARD OF ASPIRATION. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GASTRIC LAVAGE SHOULD BE PREFORMED BY QUALIFIED MEDICAL PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY. |
| ANTIDOTE: | NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. |

## REACTIVITY

| | |
|---|---|
| REACTIVITY: | STABLE UNDER NORMAL TEMPERATURES AND PRESSURES IN A CLOSED CONTAINER. |
| INCOMPATIBILITIES: | |
| **DIESEL FUEL AND:** | STRONG OXIDIZERS: MAY REACT. |
| DECOMPOSITION: | THERMAL DECOMPOSITION MAY INCLUDE TOXIC OXIDES OF SULFUR AND CARBON. |
| POLYMERIZATION: | HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. |
| CONDITIONS TO AVOID: | AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION. VAPORS MAY BE EXPLOSIVE. AVOID OVERHEATING OF CONTAINERS; CONTAINERS MAY VIOLENTLY RUPTURE IN HEAT OF FIRE. AVOID CONTAMINATION OF WATER SOURCES.<br><br>TRACE AMOUNTS OF HYDROGEN SULFIDE MAY BE PRESENT. **THERE IS A POTENTIAL FOR THE ACCUMULATION OF HYDROGEN SULFIDE IN THE HEAD SPACE OF CONTAINERS OR IN ENCLOSED AREAS** WHERE THIS PRODUCT IS STORED, HANDLED OR USED. |

## STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

**STORAGE:** STORE IN ACCORDANCE WITH 29 CFR 1910.106.

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.

THRESHOLD PLANNING QUANTITY (TPQ): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 302 REQUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANTITY EQUAL TO OR GREATER THAN THE TPQ ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION (SERC) FOR THAT STATE IN WHICH IT IS LOCATED. SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL EMERGENCY RESPONSE.

**HYDROGEN SULFIDE:**

SARA SECTION 302 TPQ: 500 POUNDS.

**DISPOSAL:** DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. ALSO COMPLY WITH APPROPRIATE STATE STANDARDS.

EPA HAZARDOUS WASTE NUMBER: D001

CERCLA SECTION 103 REPORTABLE QUANTITY: 100 POUNDS

REPORTABLE QUANTITY(RQ): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

**D001 HAZARDOUS WASTE:**

CERCLA SECTION 103 REPORTABLE QUANTITY: 100 POUNDS

**HYDROGEN SULFIDE:**

| | |
|---|---|
| CERCLA SECTION 103 REPORTABLE QUANTITY (RQ): | 100 POUNDS |
| SARA SECTION 304 REPORTABLE QUANTITY (RQ): | 100 POUNDS |

## SPILLS AND LEAKS

OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND RESTRICT ENTRY.

## PROTECTIVE EQUIPMENT

**VENTILATION**: PROVIDE LOCAL EXHAUST VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

**RESPIRATOR**: THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION.

THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

ANY CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S) AND A FULL FACEPIECE.

ANY GAS MASK WITH ORGANIC VAPOR CANISTER (CHIN-STYLE OR FRONT- OR BACK-MOUNTED CANISTER), WITH A FULL FACEPIECE.

ANY TYPE 'C' SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE OR WITH A FULL FACEPIECE, HELMET, HOOD OPERATED IN CONTINUOUS-FLOW MODE.

ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH) CONDITIONS:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

**CLOTHING**: WEAR OIL IMPERVIOUS CLOTHING. AVOID PROLONGED OR REPEATED CONTACT WITH SUBSTANCE. AVOID WEARING OIL SOAKED CLOTHING.

**GLOVES**: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

**EYE PROTECTION**: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

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CREATION DATE: 01/04/90 MOST RECENT REVISION: 06/03/92

KELLY-MOORE PAINTS

# 1680 DuraPoxy
## 100% Acrylic Interior Gloss Enamel



### Product Description
A super premium 100% acrylic interior gloss enamel. Specially formulated to produce an extremely hard and durable epoxy-like finish, ideal for high traffic areas or where repeated washing and scrubbing may be necessary. Anti-Microbial properties are built in to this product to protect dried paint film, excellent for commercial and residential application.

### Performance Features
- Low Odor & VOC
- Excellent Durability
- Washable & Scrub-able
- Superior flow & leveling
- Resists film attack from mildew
- USDA Acceptable
- Excellent Adhesion over Aged Alkyds

### Compliance & Certification
- ✓ MPI Approved Product List #114 & 119
- ✓ Meets MPI GSP-1
- ✓ Meets Green Seal GS-11 VOC Limits
- ✓ Meets LEED EQ Credit 4.2 VOC Limits
- ✓ Meets CARB VOC Limits
- ✓ Meets National AIM VOC Limits

### Product Specifications

| | |
|---|---|
| Resin Type: | 100% Acrylic |
| Color Range: | White and custom tinted colors |
| Finish: | Gloss 70+ @ 60° (MPI Gloss Level 6) |
| Drying Time: (75º F. & 50% R.H.) | To touch: 2 hour<br>To recoat: 4 hours. |
| Practical Coverage: | Approx. 250 - 350 sq. ft./gallon |
| Recommended Dry Film Thickness: | Wet: 4.5 – 6.0 mils<br>Dry: 1.7 - 2.2 mils |
| Weight per Gallon: | 10.6 lbs. ± 0.25 lbs. |
| Solids by Weight: | 53% ± 2% |
| Solids by volume: | 40% ± 2% |
| Sizes: | Five gallon, one gallon & quarts |
| V.O.C. | <50 Grams per liter |
| Clean-up: | Water |

### Chemical and Stain Resistance
The following tests were conducted on pre-primed carbon steel panels topcoated with DuraPoxy Acrylic Enamel. All panels were cured at ambient conditions for three weeks before testing. The various substances and chemicals listed were allowed to stand on the panels overnight under watch glasses. The panels were then rinsed and washed with liquid spray detergent (Fantastic) and a sponge.

| | |
|---|---|
| STAINS | |
| BBQ Sauce | No effect |
| Catsup | No effect |
| Coffee | No effect |
| Jelly | No effect |
| Mustard | No effect |
| Pencil | No effect |
| Ballpoint Pen | No effect |
| Water Soluble Marker | No effect |
| Alcohol Soluble Marker | Clean with rubbing alcohol - See Rubbing Alcohol below. |
| REAGANTS | |
| Fantastic | No effect |
| Clorox | No effect |
| Urine | No effect |
| Rubbing Alcohol | Softens – Dries back to original sheen |
| Mineral Spirits | No effect |
| Methyl Ethyl Ketone | Softens – Dries back to original sheen |
| 10% Hydrochloric Acid | No effect |
| 2% Sodium Hydroxide | If used for cleaning, limit contact to less than 1 hour |

# 1680 DuraPoxy (cont.)

## Surface Preparation

**General:**
All surfaces must be cured, firm, dry and cleaned free of dust, dirt, oil, grease, wax, chalk, mildew or any other contamination or condition that would adversely affect the performance of the coating. Sand glossy, dense or glazed surfaces*. Certain hard and dense surfaces, such as laminates or factory finishes, should be primed with a bonding primer.

**See warning for existing leaded paint under Precautions..*

**New Surfaces**: Surface must be clean, dry and dust-free. Patch imperfections with an appropriate filler. Plaster and Masonry should be thoroughly cured before painting. Ferrous metal should be primed immediately after surface preparation. All surfaces should be primed with an appropriate primer before painting.

**Previously Painted Surfaces**:
Surface must be clean, dry and dust free. Glossy surfaces should be dulled by sanding or other suitable method to a flat appearance, be sure to remove sanding dust. Exceptionally hard existing coatings (i.e. aged alkyds, epoxies) may require a bonding primer. Patch imperfections with an appropriate filler. Spot prime unpainted areas or prime entire surface with a universal acrylic primer such as Kelly-Moore 295 Kel-Bond Universal Primer.



## System Recommendations

**Wallboard, Plaster, and Masonry:**
PRIMER: 971 AcryPlex Interior PVA Primer/Sealer
OR: 295 Kel-Bond Universal Primer
*(New masonry/plaster should be allowed to cure for a minimum of 30 days)*

**Wood:**
PRIMER: 973 AcryPlex Interior Enamel Undercoat
OR: 295 Kel-Bond Universal Primer

**Aluminum, Ferrous or Galvanized Metal:**
PRIMER: 5725 DTM Acrylic Primer/Finish

**Difficult Adhesion Surfaces (tile, laminate, factory finishes, etc.):**
PRIMER: 295 Kel-Bond Universal Primer
OR: 287 Kel-Bond Adhesion Plus

**FINISH**: 1680 DuraPoxy Gloss Enamel

**Application: Brush, Roll, or Spray**
Brush: Use synthetic bristle brush.
Roller: Use 3/8" to 3/4" nap quality roller cover, depending on surface profile.
Spray: Airless sprayer is recommended. Use .017 to .021 orifice tip. For HVLP or Conventional sprayers please consult sprayer manual for latex enamel recommendations.

Do not apply when material, air, and/or surface temperature is below 50°F or above 90° F. Stir thoroughly before and during use. Maintain a wet edge to avoid lap marks.
Store at room temperature. Keep from freezing.

**Thinning**
Apply at can consistency. If thinning is necessary to maintain workability, do not exceed one-half pint of water per gallon.

*Continue Next Page*

# 1680 DuraPoxy (cont.)

**Precautions**

WARNING! If you scrape, sand or remove old paint from any surface, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. Before you start, find out how to protect yourself and your family by contacting the U.S. EPA/Lead Information Hotline at 1-800-424-LEAD (5323) or log on to www.epa.gov/lead.

Avoid contact with eyes, skin and clothing. Do not take internally. Wash thoroughly after handling. Close container after each use. For additional safety information consult the Material Safety Data Sheet for this product.

**USE ONLY WITH ADEQUATE VENTILATION.** **KEEP OUT OF REACH OF CHILDREN.**

**Proper Disposal**

For proper disposal of excess material, please contact your local city or county waste management agency.

**Limited Warranty:** The statements made on this bulletin, product labels or by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of other materials and other variables affecting results are all beyond our control, Kelly-Moore Paint Company, Inc., does not make nor does it authorize any agent or representative to make any warranty of MERCHANTABILITY OR FITNESS for any purpose or any other warranty, guarantee or representation, expressed or implied, concerning this material except that it conforms to Kelly-Moore's quality control standards. Any liability whatsoever of Kelly-Moore Paint Company, Inc. to the buyer or user of this product is limited to the purchaser's cost of the product itself.

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# SAFETY DATA SHEET

**Revision date** 14-Sep-2015 **Version** 4

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product identifier**
**Product Code** 007.0077793

**Product Name** VAL DURMX EXT LTX SGL BASE 1

**Other means of identification**
No information available

**Recommended use of the chemical and restrictions on use**
Paint, Coatings

**Details of the supplier of the safety data sheet**
*See section 16 for more information*

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

**E-mail address** msds@valspar.com

**Emergency telephone number**
**United States of America** 1-888-345-5732
**American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands** 1-800-255-3924

## Section 2: HAZARDS IDENTIFICATION

**Classification**

| | |
|---|---|
| Carcinogenicity | Category 2 |

**Label elements**

**Signal word** **WARNING**

**HAZARD STATEMENTS**
Suspected of causing cancer

**PREVENTION**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

**RESPONSE**
IF exposed or concerned: Get medical advice/attention.

**Eyes**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin**
Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

**Inhalation**
IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

**Ingestion**
Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**STORAGE**
Store locked up.

**DISPOSAL**
Dispose of contents/containers in accordance with local regulations.

**HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)**
Not applicable.

**OTHER HAZARDS**
Not applicable.

**UNKNOWN ACUTE TOXICITY** 0% of the mixture consists of ingredient(s) of unknown toxicity.

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | weight-% |
|---|---|---|
| Titanium dioxide | 13463-67-7 | 10 - 25 |
| Benzophenone | 119-61-9 | 0.1 - 0.3 |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## Section 4: FIRST AID MEASURES

**First Aid Measures**

**General advice**
IF exposed or concerned: Get medical advice/attention.

**Eye contact**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin Contact**

Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

**Inhalation**
IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

**Ingestion**
Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

**Specific hazards arising from the chemical**
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes.

**Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing.

**For emergency responders**
Use personal protection recommended in Section 8.

**Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

**Methods and material for containment and cleaning up**

**Methods for containment**
Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

## Section 7: HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

**General Hygiene Considerations**
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place.

**Incompatible materials**
Strong oxidizing agents.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits**
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Titanium dioxide<br>13463-67-7 | TWA: 10 mg/m³ | TWA: 15 mg/m³ total dust | IDLH: 5000 mg/m³ |

**Appropriate engineering controls**

**Engineering Controls**
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Wear safety glasses with side shields (or goggles).

**Skin and body protection**
Wear suitable protective clothing.

**Hand Protection**
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

**Respiratory protection**
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal Protection**
No information available

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state** liquid

| | |
|---|---|
| **Appearance** | No information available |
| **Odor** | Slight |
| **Color** | white |
| **Odor Threshold** | No information available |
| **pH value** | No information available |
| **Melting point/freezing point** | No information available |
| **Boiling point / boiling range** | No information available °C / °F |
| **flash point** | 96 °C / 205 °F |
| **evaporation rate** | No information available |
| **Flammability (solid, gas)** | No information available |
| **Flammability Limit in Air** | |
| **Upper flammability limit:** | No information available |
| **Lower flammability limit:** | No information available |
| **Vapor Pressure** | No information available |
| **vapor density** | No information available |
| **Density (lbs per US gallon)** | 9.79 |
| **specific gravity** | No information available |
| **Solubility(ies)** | No information available |
| **Partition coefficient** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |

**Other information**

## Section 10: STABILITY AND REACTIVITY

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of Hazardous Reactions** None under normal processing.

**Hazardous polymerization** None under normal processing.

**Conditions to avoid** Heat, flames and sparks.

**Incompatible materials** Strong oxidizing agents.

**Hazardous Decomposition Products** Carbon monoxide. Carbon dioxide (CO2).

## Section 11: TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Eye contact**
Not applicable
**Skin Contact**
Not applicable
**Ingestion**
Not applicable
**Inhalation**
Not applicable

**Numerical measures of toxicity - Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Titanium dioxide<br>13463-67-7 | > 10000 mg/kg ( Rat ) | - | - |
| Benzophenone<br>119-61-9 | > 10 g/kg ( Rat ) | = 3535 mg/kg ( Rabbit ) | - |

**Numerical measures of toxicity - Product Information**

**UNKNOWN ACUTE TOXICITY** 0% of the mixture consists of ingredient(s) of unknown toxicity.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity**
According to IARC, Volume 93, no significant exposure to primary particles of titanium dioxide is thought to occur from use in paints since the pigment is bound to other materials.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Titanium dioxide 13463-67-7 | | Group 2B | | X |
| Benzophenone 119-61-9 | | Group 2B | | X |

*IARC (International Agency for Research on Cancer)*
*Group 2B - Possibly Carcinogenic to Humans.*
*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*
*X - Present.*

| | |
|---|---|
| **Skin corrosion/irritation** | Not applicable |
| **Serious eye damage/eye irritation** | Not applicable |
| **Skin sensitization** | Not applicable |
| **Respiratory sensitization** | Not applicable |
| **Germ cell mutagenicity** | Not applicable |
| **Carcinogenicity** | Suspected of causing cancer |
| **Reproductive Toxicity** | Not applicable |
| **Specific target organ toxicity (single exposure)** | Not applicable |
| **Specific target organ toxicity (repeated exposure)** | Not applicable |
| **Aspiration hazard** | Not applicable |

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**
Environmental precautions Prevent product from entering drains.

**Persistence and degradability**
No information available

**Bioaccumulation**
No information available

**Mobility**
No information available

**Other adverse effects** No information available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

## Section 14: TRANSPORT INFORMATION

**DOT** **IMDG** **IATA**

| | | | |
|---|---|---|---|
| **14.1 UN/ID no** | Not regulated | Not regulated | Not regulated |
| **14.2 Proper shipping name** | | | |

**14.3 Hazard Class**
**14.4 Packing Group**
**14.5 Environmental hazard** Not applicable
**14.6 Special Provisions**
**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available

## Section 15: REGULATORY INFORMATION

### International Inventories

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing.

**DSL** - Canadian Domestic Substances List — All components are listed or exempt from listing

### US Federal Regulations

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | No |
| **Chronic Health Hazard** | Yes |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

### US State Regulations

**Rule 66 status of product**
Not photochemically reactive.

**California Proposition 65**
WARNING! This product contains a chemical known in the State of California to cause cancer.

**U.S. EPA Label information**
**EPA Pesticide registration number** Not applicable

**U.S. State Right-to-Know Regulations**

| Chemical Name |
|---|
| Water<br>7732-18-5 |
| Proprietary Non-Hazardous Ingredient - Proprietary CAS |
| Titanium dioxide<br>13463-67-7 |
| Benzophenone<br>119-61-9 |

## Section 16: OTHER INFORMATION

**HMIS**

| | |
|---|---|
| **Health hazards** | 0* |
| ** = Chronic Health Hazard* | |
| **Flammability** | 1 |
| **Physical hazards** | 0 |

**Personal Protection** X

**Supplier Address**

| | | |
|---|---|---|
| Valspar Consumer Headquarters<br>8725 W. Higgins Rd. Suite 1000<br>Chicago, IL 60631<br>773-628-5500 | The Valspar Corporation<br>4999 36th St.<br>Grand Rapids, MI 49512<br>800-253-3957 | Valspar Plasti-Kote<br>1636 Shawsone Dr.<br>Mississauga, Ontario L4W 1N7<br>905-671-8333 |

**Prepared By** Product Stewardship

**Revision date** 14-Sep-2015
**Revision Note** No information available

**Disclaimer**

**The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

**End of Safety Data Sheet**

10

D

# The Valspar Corporation
# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Material Identification**

| | |
|---|---|
| **Product ID:** | **009.0083315** |
| Product Name: | DURAMAX LTX GLS BS 2 4Q |
| Product Use: | Paint product. |
| Date Published: | 2005/02/16 |
| Revision Date: | 2003/10/14 |

**Company Identification**

The Valspar Corporation - Architectural Coatings Division
1191 Wheeling Road
Wheeling, IL 60090
Manufacturer's Phone: 1-847-520-8580

**24-Hour Medical Emergency Phone:** 1-888-345-5732

## 2. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

| Common Name<br>CAS # | Approx Wt% | Chemical name |
|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 10 - 15 | PROPRIETARY PIGMENT |
| ETHYLENE GLYCOL<br>107-21-1 | 1 - 5 | 1,2-Ethanediol |

If this section is blank there are no hazardous components per OSHA guidelines.

## 3. HAZARDS IDENTIFICATION

**Primary Routes of Exposure:**
Inhalation
Ingestion
Skin absorption

**Emergency Overview:**
This section not in use.

**This product contains ingredients that may contribute to the following potential acute health effects:**

**Inhalation Effects:**
May cause irritation of the respiratory tract.

**Eye Contact:**
May cause moderate eye irritation.

**Skin Contact:**
None known.

**Acute Ingestion:**
Irritation of gastrointestinal tract.

**Other Effects:**
None known

**This product contains ingredients that may contribute to the following potential chronic health effects:**
Possible birth defects hazard. Contains ingredients which may cause birth defects based on animal data. May cause damage to the nervous system. May cause liver damage. May cause kidney damage.

See Section 11 for toxicological information about Mutagens, Teratogens and Carcinogens.

If this section is blank, no information is available.

## 4. FIRST AID MEASURES

**Inhalation:**
If affected by inhalation, move victim to fresh air. If symptoms persist, seek medical attention.

**Eye Contact:**
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin Contact:**
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. If irritation persists get medical attention.

**Ingestion:**
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Medical conditions aggravated by exposure:** Any respiratory or skin condition.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Flash point (Fahrenheit): | 205° F ( 96° C) TCC/PM |
| Lower explosive limit: | Not available. % |
| Upper explosive limit: | Not available. % |
| Autoignition temperature: | Not available.° F ( ° C) |
| Sensitivity to impact: | No. |
| Sensitivity to static discharge: | Sensitivity to static discharge is not expected. |
| Hazardous combustion products: | See Section 10. |

**Unusual fire and explosion hazards:**
None known.

**Extinguishing media:**
Carbon dioxide, dry chemical, foam and/or water fog.

**Fire fighting procedures:**

Use water spray to cool nearby containers and structures exposed to fire. Firefighters should be equipped with self-contained breathing apparatus and turn out gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Action to be taken if material is released or spilled:**
Ventilate area. Avoid breathing of vapors. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 5, "Unusual Fire and Explosion Hazards", for proper container and storage procedures. Avoid contact with eyes.

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storage:**
Keep container closed when not in use. Keep from freezing. Do not cut, drill, grind, or weld on or near this container. Since emptied containers may contain product residue, follow all label warnings, even after container is emptied.

## 8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

**Personal Protective Equipment**

**Eye and face protection:**
Avoid contact with eyes. Wear chemical goggles if there is the possibility of contact or splashing in the eye.

**Skin protection:**
Appropriate chemical resistant gloves should be worn.To prevent skin contact wear protective clothing covering all exposed areas.

**Respiratory protection:**
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

**Ventilation**
Required when spraying or applying in confined area.

**Exposure Guidelines**

**OSHA Permissible Exposure Limits (PEL's)**

| Common Name<br>CAS # | Approx<br>Wt% | TWA (final) | Ceilings limits (final) | Skin designations |
|---|---|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 10 - 15 | 5 MGM3 Respirable fraction.<br>15 MGM3 Total dust. Respirable fraction. Listed.<br>Total dust. Listed. | | |

**ACGIH Threshold Limit Value (TLV's)**

| Common Name<br>CAS # | Approx<br>Wt% | TWA | STEL | Ceiling limits | Skin designations |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 10 - 15 | 10 MGM3<br>Inhalable<br>particles.<br>3 MGM3<br>Respirable<br>particles. | | | |
| ETHYLENE GLYCOL<br>107-21-1 | 1 - 5 | | | 100 MGM3<br>Aerosol. | |

If this section is blank, no information is available.

## 9. PHYSICAL PROPERTIES

| | |
|---|---|
| Odor: | Normal for this product type. |
| Physical State: | Liquid |
| pH: | Not determined. |
| Vapor pressure: | 24 mmHG @ 77° F ( 25° C) |
| Vapor density (air = 1.0): | 7.4 |
| Boiling point: | 212° F ( 100° C) |
| Solubility in water: | Soluble |
| Coefficient of water/oil distribution: | Not determined. |
| Density (lbs per US gallon): | 9.49 |
| Specific gravity (water = 1): | 1.14 |
| Evaporation rate (butyl acetate = 1.0): | 0.4 |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | This product is stable. |
| Conditions to Avoid: | None known. |
| Incompatibility: | Avoid water-reactive materials, heat or contact with peroxides or other catalysts. |
| Hazardous Polymerization: | None anticipated. |
| Hazardous Decomposition Products: | Carbon monoxide and carbon dioxide. Metal oxide fumes. Acrylic monomers. |

**Sensitivity to static discharge:** Sensitivity to static discharge is not expected.

## 11. TOXICOLOGICAL INFORMATION

**Mutagens:**

**Teratogens:**

**Carcinogens:**

If this section is blank, no information is available.

## 12. ECOLOGICAL DATA

Not available at this time.

## 13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

**U.S. Department of Transportation**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

**49 CFR Hazardous Material Regulations Parts 100-180**
The supplier will apply the combustible liquid exception in 49 CFR 173.150(f), limited quantity or "does not sustain combustion" exceptions and consumer commodity rules, when authorized. Please check 49 CFR Parts 100-180 to determine if the use of these exceptions applies to your shipments when re-shipping our products.

**International Air Transport Association:**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

**International Maritime Organization:**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

## 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:**

| Common Name CAS # | Approx Wt% | SARA 302 | SARA 313 | CERCLA RQ IN LBS. |
|---|---|---|---|---|
| ETHYLENE GLYCOL 107-21-1 | 1 - 5 | | form R reporting required for 1.0% de minimis concentration | 5000 LBS |

**SARA 311/312 Hazard Class:**
Acute: Yes
Chronic: Yes
Flammability: No
Reactivity: No
Sudden Pressure: No

**U.S. STATE REGULATIONS:**

**Pennsylvania Right To Know:**

| | |
|---|---|
| PROPRIETARY PIGMENT | Trade Secret |
| 1,2-Ethanediol | 107-21-1 |

**Additional Non-Hazardous Materials**

| | |
|---|---|
| WATER | 7732-18-5 |
| SUPPLIER TRADE SECRET | Trade Secret |

**Rule 66 status of product** Not photochemically reactive.

**INTERNATIONAL REGULATIONS - Chemical Inventories**

**TSCA Inventory:** All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

**Canada Domestic Substances List:** All components of this product are listed on the Domestic Substances List.

## 16. OTHER INFORMATION

**HMIS Codes**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Reactivity:** | 0 |
| **PPE:** | X - See Section 8 for Personal Protective Equipment (PPE). |

**Abbreviations:**
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

**Disclaimer:**
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

D

# The Valspar Corporation
# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Material Identification**

| | |
|---|---|
| **Product ID:** | **009.0083322** |
| Product Name: | DURAMAX LTX GLS RED 4G |
| Product Use: | Paint product. |
| Date Published: | 2005/02/15 |
| Revision Date: | 2003/09/26 |

**Company Identification**

The Valspar Corporation - Architectural Coatings Division
1191 Wheeling Road
Wheeling, IL 60090
Manufacturer's Phone: 1-847-520-8580

**24-Hour Medical Emergency Phone:** 1-888-345-5732

## 2. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

If this section is blank there are no hazardous components per OSHA guidelines.

## 3. HAZARDS IDENTIFICATION

**Primary Routes of Exposure:**
Inhalation
Ingestion
Skin absorption

**Emergency Overview:**
This section not in use.

**This product contains ingredients that may contribute to the following potential acute health effects:**

**Inhalation Effects:**
None known.

**Eye Contact:**
None known.

**Skin Contact:**
None known.

**Acute Ingestion:**
None known

**Other Effects:**

None known

**This product contains ingredients that may contribute to the following potential chronic health effects:**

See Section 11 for toxicological information about Mutagens, Teratogens and Carcinogens.

If this section is blank, no information is available.

## 4. FIRST AID MEASURES

**Inhalation:**
If affected by inhalation, move victim to fresh air. If symptoms persist, seek medical attention.

**Eye Contact:**
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin Contact:**
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. If irritation persists get medical attention.

**Ingestion:**
If swallowed, contact medical personnel immediately to determine best course of action.

**Medical conditions aggravated by exposure:** Any respiratory or skin condition.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Flash point (Fahrenheit): | 205° F ( 96° C) TCC/PM |
| Lower explosive limit: | Not available. % |
| Upper explosive limit: | Not available. % |
| Autoignition temperature: | Not available.° F ( ° C) |
| Sensitivity to impact: | No. |
| Sensitivity to static discharge: | Sensitivity to static discharge is not expected. |
| Hazardous combustion products: | See Section 10. |

**Unusual fire and explosion hazards:**
None known.

**Extinguishing media:**
Carbon dioxide, dry chemical, foam and/or water fog.

**Fire fighting procedures:**
Use water spray to cool nearby containers and structures exposed to fire. Firefighters should be equipped with self-contained breathing apparatus and turn out gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Action to be taken if material is released or spilled:**
Ventilate area. Avoid breathing of vapors. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 5, "Unusual Fire and Explosion Hazards", for proper container and storage procedures. Avoid contact with eyes.

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storage:**
Keep container closed when not in use. Keep from freezing. Do not cut, drill, grind, or weld on or near this container. Since emptied containers may contain product residue, follow all label warnings, even after container is emptied.

## 8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

**Personal Protective Equipment**

**Eye and face protection:**
Avoid contact with eyes. Wear chemical goggles if there is the possibility of contact or splashing in the eye.

**Skin protection:**
Appropriate chemical resistant gloves should be worn.To prevent skin contact wear protective clothing covering all exposed areas.

**Respiratory protection:**
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

**Ventilation**
Required when spraying or applying in confined area.

**Exposure Guidelines**

**OSHA Permissible Exposure Limits (PEL's)**

**ACGIH Threshold Limit Value (TLV's)**

If this section is blank, no information is available.

## 9. PHYSICAL PROPERTIES

| | |
|---|---|
| Odor: | Normal for this product type. |
| Physical State: | Liquid |
| pH: | Not determined. |
| Vapor pressure: | 24 mmHG @ 77° F ( 25° C) |
| Vapor density (air = 1.0): | 7.4 |
| Boiling point: | 212° F ( 100° C) |
| Solubility in water: | Soluble |
| Coefficient of water/oil distribution: | Not determined. |
| Density (lbs per US gallon): | 8.87 |
| Specific gravity (water = 1): | 1.06 |
| Evaporation rate (butyl acetate = 1.0): | 0.4 |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | This product is stable. |

| | |
|---|---|
| Conditions to Avoid: | None known. |
| Incompatibility: | Avoid water-reactive materials, heat or contact with peroxides or other catalysts. |
| Hazardous Polymerization: | None anticipated. |
| Hazardous Decomposition Products: | Carbon monoxide and carbon dioxide. Nitrogen compounds. Acrylic monomers. |

**Sensitivity to static discharge:** Sensitivity to static discharge is not expected.

## 11. TOXICOLOGICAL INFORMATION

**Mutagens:**

**Teratogens:**

**Carcinogens:**

If this section is blank, no information is available.

## 12. ECOLOGICAL DATA

Not available at this time.

## 13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

**U.S. Department of Transportation**

| | |
|---|---|
| Proper Shipping Name: | PAINT, NOT REGULATED |
| UN ID Number: | NRPAIN |

**49 CFR Hazardous Material Regulations Parts 100-180**

The supplier will apply the combustible liquid exception in 49 CFR 173.150(f), limited quantity or "does not sustain combustion" exceptions and consumer commodity rules, when authorized. Please check 49 CFR Parts 100-180 to determine if the use of these exceptions applies to your shipments when re-shipping our products.

**International Air Transport Association:**

| | |
|---|---|
| Proper Shipping Name: | PAINT, NOT REGULATED |
| UN ID Number: | NRPAIN |

**International Maritime Organization:**

| | |
|---|---|
| Proper Shipping Name: | PAINT, NOT REGULATED |
| UN ID Number: | NRPAIN |

## 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:**

**SARA 311/312 Hazard Class:**

| | |
|---|---|
| Acute: | No |
| Chronic: | No |
| Flammability: | No |
| Reactivity: | No |
| Sudden Pressure: | No |

**U.S. STATE REGULATIONS:**

**Pennsylvania Right To Know:**

**Additional Non-Hazardous Materials**

| | |
|---|---|
| PROPRIETARY PIGMENT | Trade Secret |
| SUPPLIER TRADE SECRET | Trade Secret |
| WATER | 7732-18-5 |

**Rule 66 status of product** Not photochemically reactive.

**INTERNATIONAL REGULATIONS - Chemical Inventories**

**TSCA Inventory:** All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

**Canada Domestic Substances List:** All components of this product are listed on the Domestic Substances List.

## 16. OTHER INFORMATION

**HMIS Codes**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Reactivity:** | 0 |
| **PPE:** | X - See Section 8 for Personal Protective Equipment (PPE). |

**Abbreviations:**
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

**Disclaimer:**
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR

IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

9

D

# The Valspar Corporation
# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Material Identification**

| | |
|---|---|
| **Product ID:** | **009.0083320** |
| Product Name: | DURAMAX LTX GLS WHT 4G |
| Product Use: | Paint product. |
| Date Published: | 2005/02/15 |
| Revision Date: | 2003/09/29 |

**Company Identification**

The Valspar Corporation - Architectural Coatings Division
1191 Wheeling Road
Wheeling, IL 60090
Manufacturer's Phone: 1-847-520-8580

**24-Hour Medical Emergency Phone:** 1-888-345-5732

## 2. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

| Common Name<br>CAS # | Approx Wt% | Chemical name |
|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 15 - 20 | PROPRIETARY PIGMENT |
| ETHYLENE GLYCOL<br>107-21-1 | 1 - 5 | 1,2-Ethanediol |

If this section is blank there are no hazardous components per OSHA guidelines.

## 3. HAZARDS IDENTIFICATION

**Primary Routes of Exposure:**
Inhalation
Ingestion
Skin absorption

**Emergency Overview:**
This section not in use.

**This product contains ingredients that may contribute to the following potential acute health effects:**

**Inhalation Effects:**
May cause irritation of the respiratory tract.

**Eye Contact:**
May cause moderate eye irritation.

**Skin Contact:**
None known.

**Acute Ingestion:**
May cause nausea and vomiting.

**Other Effects:**
None known

**This product contains ingredients that may contribute to the following potential chronic health effects:**
Possible birth defects hazard. Contains ingredients which may cause birth defects based on animal data. May cause damage to the nervous system. May cause liver damage. May cause kidney damage.

See Section 11 for toxicological information about Mutagens, Teratogens and Carcinogens.

If this section is blank, no information is available.

## 4. FIRST AID MEASURES

**Inhalation:**
If affected by inhalation, move victim to fresh air. If symptoms persist, seek medical attention.

**Eye Contact:**
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin Contact:**
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. If irritation persists get medical attention.

**Ingestion:**
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Medical conditions aggravated by exposure:** Any respiratory or skin condition.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Flash point (Fahrenheit): | 205° F ( 96° C) TCC/PM |
| Lower explosive limit: | Not available. % |
| Upper explosive limit: | Not available. % |
| Autoignition temperature: | Not available.° F ( ° C) |
| Sensitivity to impact: | No. |
| Sensitivity to static discharge: | Sensitivity to static discharge is not expected. |
| Hazardous combustion products: | See Section 10. |

**Unusual fire and explosion hazards:**
None known.

**Extinguishing media:**
Carbon dioxide, dry chemical, foam and/or water fog.

**Fire fighting procedures:**

Use water spray to cool nearby containers and structures exposed to fire. Firefighters should be equipped with self-contained breathing apparatus and turn out gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Action to be taken if material is released or spilled:**
Ventilate area. Avoid breathing of vapors. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 5, "Unusual Fire and Explosion Hazards", for proper container and storage procedures. Avoid contact with eyes.

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storage:**
Keep container closed when not in use. Keep from freezing. Do not cut, drill, grind, or weld on or near this container. Since emptied containers may contain product residue, follow all label warnings, even after container is emptied.

## 8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

**Personal Protective Equipment**

**Eye and face protection:**
Avoid contact with eyes. Wear chemical goggles if there is the possibility of contact or splashing in the eye.

**Skin protection:**
Appropriate chemical resistant gloves should be worn.To prevent skin contact wear protective clothing covering all exposed areas.

**Respiratory protection:**
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

**Ventilation**
Required when spraying or applying in confined area.

**Exposure Guidelines**

**OSHA Permissible Exposure Limits (PEL's)**

| Common Name<br>CAS # | Approx<br>Wt% | TWA (final) | Ceilings limits (final) | Skin designations |
|---|---|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 15 - 20 | 5 MGM3 Respirable fraction.<br>15 MGM3 Total dust. Respirable fraction. Listed.<br>Total dust. Listed. | | |

**ACGIH Threshold Limit Value (TLV's)**

| Common Name<br>CAS # | Approx<br>Wt% | TWA | STEL | Ceiling limits | Skin designations |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Trade Secret :<br>PROPRIETARY PIGMENT | 15 - 20 | 10 MGM3<br>Inhalable<br>particles.<br>3 MGM3<br>Respirable<br>particles. | | | |
| ETHYLENE GLYCOL<br>107-21-1 | 1 - 5 | | | 100 MGM3<br>Aerosol. | |

If this section is blank, no information is available.

## 9. PHYSICAL PROPERTIES

| | |
|---|---|
| Odor: | Normal for this product type. |
| Physical State: | Liquid |
| pH: | Not determined. |
| Vapor pressure: | 24 mmHG @ 77° F ( 25° C) |
| Vapor density (air = 1.0): | 7.4 |
| Boiling point: | 212° F ( 100° C) |
| Solubility in water: | Soluble |
| Coefficient of water/oil distribution: | Not determined. |
| Density (lbs per US gallon): | 10.21 |
| Specific gravity (water = 1): | 1.22 |
| Evaporation rate (butyl acetate = 1.0): | 0.4 |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | This product is stable. |
| Conditions to Avoid: | None known. |
| Incompatibility: | Avoid water-reactive materials, heat or contact with peroxides or other catalysts. |
| Hazardous Polymerization: | None anticipated. |
| Hazardous Decomposition Products: | Carbon monoxide and carbon dioxide. Metal oxide fumes. Acrylic monomers. |

**Sensitivity to static discharge:** Sensitivity to static discharge is not expected.

## 11. TOXICOLOGICAL INFORMATION

**Mutagens:**

**Teratogens:**

**Carcinogens:**

If this section is blank, no information is available.

## 12. ECOLOGICAL DATA

Not available at this time.

## 13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

**U.S. Department of Transportation**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

**49 CFR Hazardous Material Regulations Parts 100-180**
The supplier will apply the combustible liquid exception in 49 CFR 173.150(f), limited quantity or "does not sustain combustion" exceptions and consumer commodity rules, when authorized. Please check 49 CFR Parts 100-180 to determine if the use of these exceptions applies to your shipments when re-shipping our products.

**International Air Transport Association:**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

**International Maritime Organization:**
Proper Shipping Name: PAINT, NOT REGULATED
UN ID Number: NRPAIN

## 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:**

| Common Name<br>CAS # | Approx<br>Wt% | SARA 302 | SARA 313 | CERCLA RQ IN LBS. |
|---|---|---|---|---|
| ETHYLENE GLYCOL<br>107-21-1 | 1 - 5 | | form R reporting required for 1.0% de minimis concentration | 5000 LBS |

**SARA 311/312 Hazard Class:**
Acute: No
Chronic: No
Flammability: No
Reactivity: No
Sudden Pressure: No

**U.S. STATE REGULATIONS:**

**Pennsylvania Right To Know:**

**Additional Non-Hazardous Materials**

PROPRIETARY PIGMENT Trade Secret
WATER 7732-18-5
SUPPLIER TRADE SECRET Trade Secret

**Rule 66 status of product** Not photochemically reactive.

**INTERNATIONAL REGULATIONS - Chemical Inventories**

| | |
|---|---|
| **TSCA Inventory:** | All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements. |
| **Canada Domestic Substances List:** | All components of this product are listed on the Domestic Substances List. |

## 16. OTHER INFORMATION

**HMIS Codes**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Reactivity:** | 0 |
| **PPE:** | X - See Section 8 for Personal Protective Equipment (PPE). |

**Abbreviations:**
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

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# MATERIAL SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT

| | |
|---|---|
| **Product Name:** | Nook Industries E-900 Ball Screw Lubricant Spray |
| **Product Description:** | Synthetic Base Stocks and Additives |
| **Product Code:** | 202050401020, 494237-00, 971870 |
| **Intended Use:** | Ball screw lubrication |

### COMPANY IDENTIFICATION

| | |
|---|---|
| **Supplier:** | **NOOK INDUSTRIES**<br>4950 EAST 49th STREET<br>CLEVELAND, OH 44125 |
| **24 Hour Health Emergency** | 800-255-3924 |
| **MSDS Requests** | 800-321-7800 |
| **MSDS Internet Address** | http://www.nookindustries.com/r/msds |

## SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

### REPORTABLE HAZARDOUS SUBSTANCE(S) OR COMPLEX SUBSTANCE(S)

| NAME | CAS# | CONCENTRATION* |
|---|---|---|
| 1-NAPHTHYLAMINE, N-PHENYL- | 90-30-2 | 1% |
| Propane | 74-98-6 | 5mg/m$^3$ |

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

## SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (MSDS Section 15).

### POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. This product is not expected to produce adverse health effects under normal conditions of use and with appropriate personal hygiene practices. Product may decompose at elevated temperatures or under fire conditions and give off irritating and/or harmful (carbon monoxide) gases/vapors/fumes. Symptoms from acute exposure to these decomposition products in confined spaces may include headache, nausea, eye, nose, and throat irritation. High-pressure injection under skin may cause serious damage.

| NFPA HAZARD ID: | HEALTH: 1 | FLAMMABILITY: 1 | REACTIVITY: 0 |
|---|---|---|---|
| HMIS Hazard ID: | Health: 1 | Flammability: 1 | Reactivity: 0 |

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## SECTION 4 FIRST AID MEASURES

### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

### SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

### EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

### INGESTION

Seek immediate medical attention.

## SECTION 5 FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Smoke, Fume, Oxides of carbon, Sulfur oxides, Incomplete combustion products, Trimethylol propane phosphate

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** 210C (410F) [ ASTM D-92]
**Flammable Limits (Approx vol % in air):** LEL: N/D UEL: N/D
**Autoignition Temperature:** N/D

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

### SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

### ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

It has been determined that during fires neurotoxic trimethylol propane phosphate may be formed, which when inhaled may impair central nervous system function. In addition, thermally decomposed (and cooled) residues may be neurotoxic. Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

## GENERAL INFORMATION

| | |
|---|---|
| **Physical State:** | Liquid |
| **Color:** | Amber |
| **Odor:** | Characteristic |
| **Odor Threshold:** | N/D |

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

| | |
|---|---|
| **Relative Density (at 15 C ):** | 0.96 |
| **Flash Point [Method]:** | 210C (410F) [ ASTM D-92] |
| **Flammable Limits (Approx vol % in air):** | LEL: N/D UEL: N/D |
| **Autoignition Temperature:** | N/D |
| **Boiling Point / Range:** | > 316C (600F) |
| **Vapor Density (Air = 1):** | N/D |
| **Vapor Pressure:** | < 0.013 kPa (0.1 mm Hg) at 20 C |
| **Evaporation Rate (n-butyl acetate = 1):** | N/D |
| **pH:** | N/A |

**Log Pow (n-Octanol/Water Partition Coefficient):** N/A
**Solubility in Water:** Negligible
**Viscosity:** 13.3 cSt (13.3 mm2/sec ) at 40 C | 3 cSt (3 mm2/sec) at 100C
**Oxidizing Properties:** See Sections 3, 15, 16.

## OTHER INFORMATION

**Freezing Point:** N/D
**Melting Point:** N/A
**Pour Point:** -62°C (-80°F)

## SECTION 10 STABILITY AND REACTIVITY

**Stability:** material is stable under normal conditions.
**Conditions To Avoid:** excessive heat. High energy sources of ignition.
**Materials To Avoid:** Strong oxidizers
**Hazardous Decomposition Products:** material does not decompose at ambient temperatures.
**Hazardous Polymerization:** will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY

| ROUTE OF EXPOSURE | CONCLUSION / REMARKS |
|---|---|
| **Inhalation** | |
| Toxicity: No end point data. | Not determined. |
| Irritation: No end point data. | Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components. |
| | |
| **Ingestion** | |
| Toxicity: No end point data. | Minimally Toxic. Based on assessment of the components. |
| | |
| **Skin** | |
| Toxicity: No end point data. | Minimally Toxic. Based on assessment of the components. |
| Irritation: No end point data. | Negligible irritation to skin at ambient temperatures. Based on assessment of the components. |
| | |
| **Eye** | |
| Irritation: No end point data. | May cause mild, short-lasting discomfort to eyes. Based on assessment of the components. |
| | |

### CHRONIC/OTHER EFFECTS

**Contains:**

**N-phenyl-1-naphthylamine:** A single oral overexposure may lead to signs of cyanosis, including headache, shallow respiration, dizziness, confusion, fall in blood pressure, convulsions, coma, jaundice.

Anemia may occur later. Repeated exposure in laboratory animals caused liver and kidney damage and depression of bone marrow activity. Hematuria may occur due to bladder and kidney irritation. Genotoxic in vitro.

**Phenyl-alpha-naphthylamine (PAN):** Undiluted PAN is a skin sensitizer. Human testing with lubricants containing 1.0% PAN caused no reactions indicative of sensitization.

Additional information is available by request.

**The following ingredients are cited on the lists below:** None.

| --REGULATORY LISTS SEARCHED-- | | |
|---|---|---|
| 1 = NTP CARC | 3 = IARC 1 | 5 = IARC 2B |
| 2 = NTP SUS | 4 = IARC 2A | 6 = OSHA CARC |

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material – Not expected to be harmful to aquatic organisms.

Material – Not expected to demonstrate chronic toxicity to aquatic organisms.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning Empty Container Warning (where applicable):** Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## SECTION 14 TRANSPORT INFORMATION

| | |
|---|---|
| **LAND (DOT) :** | Not Regulated for Land Transport |
| **LAND (TDG) :** | Not Regulated for Land Transport |
| **SEA (IMDG) :** | Not Regulated for Sea Transport according to IMDG-Code |
| **AIR (IATA) :** | Not Regulated for Air Transport |

## SECTION 15 REGULATORY INFORMATION

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** PICCS, AICS, KECI, TSCA, EINECS

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The Following Ingredients are Cited on the Lists Below:**

| CHEMICAL NAME | CAS NUMBER | LIST CITATIONS |
|---|---|---|
| Diphenylamine | 122-39-4 | 5 |

| --REGULATORY LISTS SEARCHED-- | | | |
|---|---|---|---|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1 | 7 = TSCA 5e | 12 = CA RTK | 17 = NJ RTK |
| 3 = ACGIH A2 | 8 = TSCA 6 | 13 = IL RTK | 18 = PA RTK |
| 4 = OSHA Z | 9 = TSCA 12b | 14 = LA RTK | 19 = RI RTK |
| 5 = TSCA 4 | 10 = CA P65 CARC | 15 = MI 293 | |

Code key: CARC=Carcinogen; REPRO=Reproductive

## SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

###

The information and recommendations contained herein are, to the best of Nook Industries' knowledge and belief, accurate and reliable as of the date issued. You can contact Nook Industries to insure that this document is the most current available from Nook Industries. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

**Henkel Corporation**

PRODUCT NUMBER: EC180655 ISSUE DATE: 28-February-2009

# *** MATERIAL SAFETY DATA SHEET ***

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| PRODUCT NAME: | ECCOBOND™ 285 BLACK<br>THERMALLY CONDUCTIVE ADHESIVE |
| COMPANY ADDRESS | Henkel Corporation<br>46 Manning Road<br>Billerica, MA 01821 |
| | EMERGENCY CONTACT NUMBERS:<br>MEDICAL: 1.866-359-5657 (Health & Safety Call Center-24 hours)<br>TRANSPORT: CHEMTREC: 1.800.424.9300 (24 hours)<br>CHEMTREC International: 1.703.527.3887 (call collect)<br>Customer Service: 1.781.828.3300 |

## 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING.
Possible cancer hazard.
Suspected of causing genetic defects.
EYE IRRITANT.
SEVERE SKIN IRRITANT.
SKIN SENSITIZER.
Black Paste Slight Odor

| | |
|---|---|
| EYE | Will cause eye irritation. May cause permanent damage if eye is not immediately irrigated. |
| SKIN CONTACT | Repeated or prolonged skin contact may result in severe irritation. Repeated and/or prolonged contact may cause skin sensitization. |
| INHALATION | Unlikely to be hazardous by inhalation because of the low vapor pressure of the material at ambient temperature. Vapors and/or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract. If the cured product is to be sanded or ground, wet sanding is recommended to eliminate airborne dust. Appropriate respiratory protection is suggested. |
| INGESTION | May cause nausea and vomiting. |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: Formulated Epoxy Resin

| COMPONENT | CAS NUMBER | CONCENTRATION (% by weight) |
|---|---|---|
| Aluminum oxide | 1344-28-1 | >50 |
| Epoxy resin | PROPRIETARY | 20 - 35 |
| Silicon dioxide, crystalline free | 112945-52-5 | 1 - 5 |
| Butyl glycidyl ether | 2426-08-6 | 1 - 5 |
| Carbon black | 1333-86-4 | <0.5 |

## 4. FIRST-AID MEASURES

| | |
|---|---|
| EYE | Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention. |
| SKIN CONTACT | Wash skin with soap and water. If symptoms develop, obtain medical attention. |
| INHALATION | Remove to fresh air. Administer oxygen to aid breathing. Get medical attention. |
| INGESTION | If individual is conscious, give water to dilute stomach contents. Get prompt medical attention. |

## 5. FIREFIGHTING MEASURES

| | |
|---|---|
| AUTOIGNITION | Not available |
| FLASH POINT | > 200 °F |
| EXTINGUISHING MEDIA | Water spray or fog, CO2, dry chemical |
| SPECIAL FIREFIGHTING PROCEDURES | Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.; Cool exposed equipment with water spray. |
| FIRE & EXPLOSION HAZARDS | Combustible at high temperatures. |
| HAZARDOUS COMBUSTION PRODUCTS | Carbon monoxide, carbon dioxide, unknown hydrocarbons. |
| LOWER EXPLOSION LIMIT (%) | Not determined. |
| UPPER EXPLOSION LIMIT (%) | Not determined. |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| SPILL AND LEAK PROCEDURES | Evacuate immediate area and dike area to contain spill. Extinguish open flames and ignition sources in the immediate area. Wear proper protective clothing, gloves, and splash goggles. Absorb as much of spilled material as possible with rags, sand, vermiculite or other absorbent material. Scrape absorbed material into designated waste containers. Wash area thoroughly with detergent and rinse, taking care to prevent runoff into drains or other waterways. All spilled material, absorbed waste and wash water must be disposed of in accordance with all Federal state and local regulations. |

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

## 7. HANDLING AND STORAGE

| | |
|---|---|
| STORAGE TEMPERATURE | 25 °C |
| SHELF LIFE, (Days) | 365 |
| HANDLING/STORAGE | Keep containers properly sealed and store indoors in a well ventilated area. Keep away from heat and sources of ignition. |
| SENSITIVITY TO STATIC ELECTRICITY | No |
| SPECIAL SENSITIVITY | No |
| SENSITIVITY TO MECHANICAL IMPACT | No |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| COMPONENT | EXPOSURE LIMITS | | |
|---|---|---|---|
| | ACGIH | OSHA | Mfg Working Standard |
| Aluminum oxide | 10 mg/m3 PEL (total dust); 5 mg/m3 PEL (respirable fraction, listed under Particulates not otherwise | 15 mppcf TWA (respirable fraction); 5 mg/m3 TWA (respirable fraction); | Manufacturer: 6 mg/m3 |

| | | |
|---|---|---|
| | regulated). | 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust) |
| Silicon dioxide, crystalline free | 10 mg/m3 PEL (total dust); 5 mg/m3 PEL (respirable fraction, listed under Particulates not otherwise regulated). | 15 mppcf TWA (respirable fraction); 5 mg/m3 TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust) |
| Butyl glycidyl ether | Skin - potential significant contribution to overall exposure by the cutaneous route<br>3 ppm TWA. | 50 ppm TWA; 270 mg/m3 TWA |
| Carbon black | 3.5 mg/m3 TWA. | 3.5 mg/m3 TWA |

| | |
|---|---|
| VENTILATION REQUIREMENTS | Local mechanical ventilation. Sufficient to keep vapors below TLV exposure limits. |
| EYE PROTECTION REQUIREMENTS | Wear close fitting goggles or full face shield. |
| GLOVE REQUIREMENTS | Neoprene or natural rubber is recommended. |
| CLOTHING REQUIREMENTS | Wear protective equipment to comply with good occupational hygiene practice. |
| CHANGE/REMOVAL OF CLOTHING | Remove contaminated clothing and launder before reuse. |
| WASH REQUIREMENTS | Showers and eye washing equipment must be provided at handling points. |
| RESPIRATOR REQUIREMENTS | Respiratory protection required if the exposure level is unknown or has been measured and found to exceed the published exposure limits. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| PURE SUBSTANCE OR MIXTURE | Mixture |
| PHYSICAL FORM | Paste |
| COLOR | Black |
| ODOR | Slight |
| ODOR THRESHOLD | None Established |
| OXIDIZING PROPERTIES | Not applicable |
| BOILING POINT | Not determined. |
| SOLUBILITY IN WATER | Insoluble |
| PARTITION COEFFICIENT (n-octanol/water) | Not determined. |
| SPECIFIC GRAVITY (WATER=1) | 2.4 |
| EVAPORATION RATE | Not determined. |
| VAPOR PRESSURE (mmHg) | < 0.1 @ 25°C |
| VAPOR DENSITY (air = 1) | > 1.0 |
| VOLATILES | < 0.8 %/wt |
| VOLATILE ORGANIC COMPOUNDS | < 18.8 g/liter |
| AUTOIGNITION | Not available |
| FLASH POINT | > 200 °F |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| STABILITY | Stable |
| STABILITY DETAIL | Material is stable under normal temperatures and pressures. |

| | |
|---|---|
| MATERIALS TO AVOID | Amines, Acids, Strong oxidizers, Mercaptans, Imidazoles |
| CONDITIONS TO AVOID | Elevated temperatures |
| HAZARDOUS DECOMPOSITION PRODUCTS | Carbon monoxide, carbon dioxide, unknown hydrocarbons. |
| HAZARDOUS POLYMERIZATION CONDITIONS | Hazardous polymerization has not been reported to occur under normal temperatures and pressures. |

## 11. TOXICOLOGICAL INFORMATION

ROUTE OF ENTRY: Eye Contact; Skin Contact; Inhalation; Ingestion

| **CARCINOGEN** | IARC (group) | NTP | OSHA Substance Specific Regulation |
|---|---|---|---|
| COMPONENT | | | |
| Carbon black | Yes (2B) | No | Not Listed |

**CHRONIC (LONG TERM) EFFECTS OF EXPOSURE**

| | |
|---|---|
| EFFECTS OF CHRONIC EXPOSURE | A component(s) of this product was found to be positive in one or more mutagenetic assays. |
| TARGET ORGANS | Eyes; Skin; Respiratory system |
| SKIN SENSITIZATION | Sensitizer. May cause allergic reaction. |

**PRODUCT TOXICOLOGY**

PRODUCT INFORMATION: This data sheet is based on a consideration of the properties of the constituents.

| COMPONENT | ORAL TOXICITY | NOTES ON ORAL TOXICITY |
|---|---|---|
| Aluminum oxide | | No hazard in normal industrial use. Ingestion may cause irritation of the gastrointestinal tract. Non-toxic. |
| Epoxy resin | Oral LD50: Rat > 5000 mg/kg | Unlikely to be hazardous if swallowed. |
| Butyl glycidyl ether | Oral LD50: Rat 1000 mg/kg | May cause nausea, vomiting and diarrhea. |
| Carbon black | Oral LD50: Rat > 8000 mg/kg | Unlikely to be hazardous if swallowed. Ingestion may cause irritation of the gastrointestinal tract. |

| COMPONENT | DERMAL TOXICITY | NOTES ON DERMAL TOXICITY |
|---|---|---|
| Aluminum oxide | | Slight/mild irritant. |
| Epoxy resin | Dermal LD50: Rabbit > 6000 mg/kg | Repeated or prolonged skin contact may result in moderate irritation. Repeated and/or prolonged contact may cause skin sensitization. |
| Butyl glycidyl ether | Dermal LD50: Rabbit 788 mg/kg | Severely irritating; may cause permanent skin damage. Repeated and/or prolonged contact may cause irritation and skin sensitization. |
| Carbon black | | Non-irritant. |

| COMPONENT | INHALATION TOXICITY | NOTES ON INHALATION TOXICITY |
|---|---|---|
| Aluminum oxide | | Dust may cause irritation. |

| | | |
|---|---|---|
| Epoxy resin | | Unlikely to be hazardous by inhalation because of the low vapor pressure of the material at ambient temperature. |
| Butyl glycidyl ether | Inhalation LC50 (8hr): Rat 1030 ppm | Vapor or aerosol, if generated, can cause irritation of the eyes, nose and respiratory tract. |
| Carbon black | Inhalation LC50 (1hr): Rat 6750 mg/m3 | Inhalation of high concentrations of dust may cause mechanical irritation and discomfort. Repeated exposure to dusts may aggravate pre-existing respiratory conditions. Prolonged or frequent breathing of excess dust may cause an adverse respiratory effect. |

| COMPONENT | NOTES ON EYE IRRITATION |
|---|---|
| Aluminum oxide | Slight/mild irritant. Particulates may scratch eye surfaces and cause mechanical irritation. |
| Epoxy resin | May cause eye irritation. |
| Butyl glycidyl ether | Severe/very severe irritant. |
| Carbon black | Particulates may scratch eye surfaces and cause mechanical irritation. |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| POTENTIAL EFFECT ON ENVIRONMENT | Unknown. |
| POTENTIAL TO BIOACCUMULATE | Unknown. |
| ECOTOXICITY | Unknown. |
| AQUATIC TOXICITY | None Established |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| WASTE DISPOSAL METHODS | Disposal should be in accordance with local, state or national legislation. |
| EMPTY CONTAINER WARNINGS | Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied. |

## 14. TRANSPORTATION INFORMATION

This section provided for general information only. The shipping description below may not represent requirements for all modes of transportation, packaging, shipping methods or locations outside of the United States.

FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.

**DOT CLASSIFICATION** Not Regulated

**ICAO/IATA CLASSIFICATION** Not classified as dangerous.

The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

## 15. REGULATORY INFORMATION

| | |
|---|---|
| TSCA | All components are on the TSCA inventory. |
| Canadian Domestic Substance List (DSL) | Is on DSL |
| China (IECSC) | On the IECSC Inventory. |
| Australia (AICS) | On the AICS Inventory. |
| Korea (KECI) | On the KECI Inventory. |
| Philippines (PICCS) | On the PICCS Inventory. |

| | |
|---|---|
| SARA - Section 313 (Superfund Amendments and Reauthorization Act of 1986 - 40CFR 372) | CAS NUMBER |
| Aluminum oxide | 1344-28-1 |

CALIFORNIA PROPOSITION 65
WARNING: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.
Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

| COMPONENT | CAS NUMBER |
|---|---|
| Carbon black | 1333-86-4 |
| Phenyl glycidyl ether | 122-60-1 |
| Epichlorohydrin | 106-89-8 |

## 16. OTHER INFORMATION

HMIS® Hazard Ratings
HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs by OSHA's 29 CFR 1910.1200, we choose to provide them as a service to our customers using HMIS®. These ratings are to be used only with a fully implemented HMIS® program. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

NPCA recommends that employers must determine appropriate PPE for the actual conditions under which this product is used in their workplace. For information on PPE codes, consult the HMIS® Implementation Manual.

When two ratings are provided for Health, the first represents the material 'as supplied', and the second represents the material 'in use'.
* = chronic health hazard

HMIS® is a registered trademark of the National Paint and Coatings Association (NPCA).

| Health | Flammability | Physical Hazard |
|---|---|---|
| *2 | 1 | 0 |

PREPARED BY: Regulatory Affairs
Henkel Corporation

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# MATERIAL SAFETY DATA SHEET

**Manufacturer: Price-Driscoll Corporation**
**17 Industrial Drive, Waterford, CT 06385**
Tel: 800 442-3575 Fax: 800 447-3557

**Product Name:** **Eject-It #E22** – All Purpose Thermoset Mold Release
**Series** **Spectrum**
**Form:** **Aerosol cans, 12 oz.** December 2003
**Emergency Contact:** **INFOTRAC 1(800)535-5053** Revision: August 2011

## Hazardous Ingredient/Identity Information

| CHEMICAL NAME | CAS# | OSHA PEL (8 hr TWA) | % (Range) |
|---|---|---|---|
| Dimethyl Ether | 115-10-6 | 1000 ppm | 60%-40% |
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 1000 ppm | 40%-60% |

## Physical/Chemical Characteristics

| | |
|---|---|
| Appearance | Clear, colorless liquid – under pressure in cans |
| Boiling Range | -13 to –15.5°F |
| Vapor Pressure (mm Hg.) | 69 psig @70°F |
| Vapor Density (AIR = 1) | 2.6 |
| Specific Gravity ($H_2O$ = 1) | .989 |
| Solubility in Water | Insoluble |

## Health Hazard Data

Routes of Entry: Skin: Yes Inhalation: Yes Ingestion: Not likely

**Potential acute health effects of overexposure:**

Eye: Eye contact with liquid or vapor may cause severe irritation, redness, tearing, blurred vision and possible freeze burns.

Skin: Skin contact with the liquid may cause freezing of the skin (frostbite) or irritation.

Ingestion: Ingestion not a likely route of entry

Inhalation: Overexposure by inhalation of vapors may cause respiratory irritation, nausea, headache and dizziness. Inhalation may produce anesthetic effects and feeling of euphoria. Prolonged overexposure can cause rapid breathing, headache, dizziness, narcosis, unconsciousness and death from asphyxiation, depending on concentration and time of exposure.

***MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:***
May increase susceptibility to toxicity of excessive exposures in persons with pre-existing diseases of the central nervous or cardiovascular systems.

## EMERGENCY AND FIRST AID PROCEDURES

***EYES:*** Immediately rinse eyes with running water for 15 minutes. If irritation develops, get medical attention. Consult physician immediately if frostbite occurs.

***SKIN:*** Wash affected area with soap and water. Remove and launder contaminated clothing before reuse. Treat as frostbite. If irritation develop or if there is evidence of tissue damage, get medical attention.

***INHALATION:*** Remove to fresh air. If breathing has stopped, restore breathing at once. Administer oxygen and get immediate medical help.

***INGESTION:*** Ingestion is an unlikely route of exposure. Do not induce vomiting unless instructed to do so by a physician. Seek immediate medical attention.

## Fire & Explosion Hazard Data

| | |
|---|---|
| Flash Point (Method): | N/A – Flash point not determined for mixture.<br>Product is non-flammable by aerosol standards |
| Extinguishing Media: | Dry chemical extinguisher (B-C), Water |
| Fire and Explosion Hazards: | Vapors confined in a poorly ventilated area may be ignited by a spark or flame. Vapors may travel considerable distances to ignition sources. Vapors are heavier than air and may accumulate in low areas. Container may rupture or explode under fire conditions. Hazardous decomposition products may be formed (see reactivity data section.) Under fire conditions, empty containers retain product residue and can be dangerous. |
| Fire Fighting Procedures: | Use dry chemical, foam, or CO2; water may be ineffective but should be used to keep exposed containers cool. Stop the release of materials if possible. Avoid accumulation of unburned materials. Remove personnel in general area. |

## Reactivity Data

| | |
|---|---|
| Stable: | Yes |
| Conditions/Materials to Avoid**:** | Ignition sources such as open flames, sparks, static discharges or glowing metal surfaces. Oxygen, oxidizers, CO, acetic acid, etc. Powered Al, Zn, Be, etc., finely divided metals, magnesium and alloys containing more than 2% magnesium. Can react violently if in contact with alkali or alkali earth metals such as sodium, potassium or barium. |
| Hazardous Decomposition***:*** | Burning can produce the following combustion products: Halogens, halogen acids, by thermal decomposition. Violent decomposition can occur if heated in the presence of peroxides. Hydrogen fluoride and possible carbonyl halides. |
| Hazardous Polymerization: | Will not occur |

## Precautions for Safe Handling and Use

**Steps to be taken in case material is spilled or released:** Avoid breathing vapors. Evacuate area until vapor has dispersed. Remove all sources of ignition. Stop or reduce discharge if it can be done safely.

| | |
|---|---|
| Handling: | Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Do not use near ignition sources. Contents are under pressure. Do not puncture, incinerate, expose to open flame or temperature above 120°F. Keep out of direct sunlight. For industrial use only. Keep out of reach of children. Store in a well-ventilated place, Keep container tightly closed. Read label precautions. Do not remove or deface label. |
| Storage: | Store in a cool, dry, well ventilated area away from all sources of ignition. Do not store at temperature above 120°F. |
| Disposal: | Empty fully and relieve pressure. Empty containers can be recycled. Dispose according to Local, State and Federal regulations. |
| Ventilation: | Local exhaust -- use sufficient ventilation to keep employee exposure below recommended limits. Mechanical (general) -- in low lying, confined or poorly ventilated areas where vapors tend to accumulate and displace air, use explosion proof fans and motors. |
| Skin protection: | The use of chemically resistant gloves is recommended if there is any possibility of prolonged or repeated liquid contact with the skin. |
| Eye protection: | Proper eye protection should be worn in any type of industrial operation, such as splashproof faceshield or goggles. |

**Permatex, Inc.**
**10 Columbus Blvd.**
**Hartford, CT 06106 USA**
**Telephone: 1-87-Permatex**
**(877) 376-2839**
**Emergency: 800-255-3924**

# Material Safety Data Sheet

## 1. PRODUCT IDENTIFICATION

**Product Name:** **ELECTRICAL CONTACT CLEANER 15OZ AE**
**Item No:** **24379**
**Product Type:** **Aerosol cleaner**

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | Percent | ACGIH 8 Hr. TWA: | OSHA 8 Hr. TWA: |
|---|---|---|---|
| DICHLOROFLUOROETHANE 1717-00-6 | 90-100 | Not Listed | Not Listed |
| CARBON DIOXIDE 124-38-9 | 1-10 | 5000 ppm TWA | 5000 ppm TWA |

## 3. HAZARDS IDENTIFICATION

**Toxicity:** May cause eye, skin and respiratory irritation. Deliberately concentrating and inhaling the vapor may be harmful or fatal.

**Primary Routes of Entry:** Eye and skin contact, ingestion, inhalation.

**Signs and Symptoms of Exposure:** Excessive overexposure may cause giddiness, dizziness, headache, nausea and in extreme cases, unconsciousness and respiratory depression. Overexposure may cause eye and skin redness.

**Medical Conditions Recognized as Being Aggravated by Exposure:** None known

## 4. FIRST AID MEASURES

**Ingestion:** If swallowed, do NOT induce vomiting. Give victim two glasses of water, Call a physician immediately. Never give anything by mouth to an unconscious person.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

**Skin Contact:** Remove contaminated clothing. Wash area with soap and water. If irritation persists, seek medical attention.

**Eye Contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

## 5. FIRE FIGHTING MEASURES

**Flash Point (°F/C):** More than 200 degrees F. Method: Pensky-Martens Closed Cup

**Recommended Extinguishing Media:** Carbon Dioxide, Dry Chemicals, Foam.

**Special Fire-Fighting Procedures:** Firefighters should wear self-contained breathing apparatus. Keep containers cool. Use equipment or shielding required to protect against bursting or venting of containers.

**Hazardous Products Formed by Fire or Thermal Decomposition:** Irritating vapors. Oxides of carbon. Hydrochloric acid, phosgene, chlorine, carbon dioxide

**Unusual Fire/Explosion Hazards:** Contents under pressure. Closed containers may rupture or explode when exposed to extreme heat. Do not puncture or incinerate container.

**Lower Explosive Limit:** 7.6%

**Upper Explosive Limit:** 17.7%

## 6. ACCIDENTAL RELEASE MEASURES

**Spill Procedures:** Eliminate all sources of ignition. Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

## 7. HANDLING AND STORAGE

**Storage:** Store below 100 degrees F.

**Handling:** Avoid prolonged skin contact. Keep away from eyes. Do not puncture or incinerate container. Intentionally concentrating and inhaling the vapor may be harmful or fatal. Use in a well ventilated area to prevent irritation by vapors.

**Product Name: ELECTRICAL CONTACT CLEANER** **Item No: 24379**
**15OZ AE**

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eyes:** Safety glasses with side shields.
**Skin:** Chemical resistant gloves.
**Ventilation:** General ventilation is usually adequate.
**Respiratory Protection:** An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear liquid
**Odor:** ETHEREAL
**Boiling Point (°F):** <0 to 90 degrees F.
**pH:** Does not apply
**Solubility in Water:** Slight
**Specific Gravity:** 1.23 (base only)
**VOC Content(Wt.%):** None
**Vapor Pressure:** Not Determined
**Vapor Density (Air=1):** 4.1 (base only)
**Evaporation Rate:** Faster than ether

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** STABLE
**Hazardous Polymerization:** WILL NOT OCCUR
**Incompatabilities:** Strong oxidizers, strong alkalies, reactive metals
**Conditions to Avoid:** Excessive heat.
**Hazardous Products Formed by Fire or Thermal Decomposition:** Irritating vapors. Oxides of carbon. Hydrochloric acid, phosgene, chlorine, carbon dioxide

## 11. TOXICOLOGICAL INFORMATION

**See Section 3**

## 12. ECOLOGICAL INFORMATION

**No data available**

## 13. DISPOSAL CONSIDERATIONS

**Recommended Method of Disposal:** Disposal should be made in accordance with federal, state and local regulations. This container may be recycled in aerosol recycling centers. Before offering for recycling, empty the can by using the product according to the label. If recycling is not available, wrap the container and discard in the trash.
**US EPA Waste Number:** D001 as per 40CFR 261.21

## 14. TRANSPORTATION INFORMATION

**DOT (49CFR 172)**

**Domestic Ground Transport**

**DOT Shipping Name:** CONSUMER COMMODITY
**Hazard Class:** ORM-D
**UN/ID Number:** None Known
**Marine Pollutant:** Not determined.

**IATA**

**Proper Shipping Name:** Consumer Commodity
**Class or Division:** Class 9
**UN/NA Number:** ID 8000

**IMDG**

**Proper Shipping:** Aerosols, Limited Quantity
**Hazard Class:** Class 2.2
**UN Number:** UN 1950

## 15. REGULATORY INFORMATION

**SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.**

**Product Name: ELECTRICAL CONTACT CLEANER 15OZ AE** **Item No: 24379**

**SARA 313 Information**
DICHLOROFLUOROETHANE

**CALIFORNIA PROP 65:**
No California Prop 65 chemicals are known to be present.

**TSCA Inventory Status:**
**Listed on Inventory: YES** All components of this product are listed (or exempt) on the EPA TSCA inventory.

## 16. OTHER INFORMATION

**Estimated NFPA Rating:** HEALTH 1, FLAMMABILITY 0 , REACTIVITY 1
**Estimated HMIS Classification:** HEALTH 1, FLAMMABILITY 0, PHYSICAL HAZARD 0
NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

**Prepared By:** Denise Boyd, Health and Safety Manager
**Company:** Permatex. Inc. 10 Columbus Blvd. Hartford, CT USA 06106
**Telephone Number:** 1-87-Permatex (877) 376-2839

**Revision Date:** 03/08/2001
**Revision Number:** 0

# Material Safety Data Sheet

Chemtronics

Electro-Wash® PX

## 1. Product and company identification

**Product name** : Electro-Wash® PX

**Supplier** : Chemtronics
8125 Cobb Center Drive
Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

**Synonym** : ES1210 (NSN 6850-01-393-9054), ES810,ES1210A, ES1210C, ES810BC

**Trade name** : Electro-Wash® PX

**Manufacturer** : Chemtronics
8125 Cobb Center Drive
Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

**Code** : ES810, ES1210A, ES1210

**MSDS #** : 0213

**Validation date** : 5/2/2014.

**Print date** : 5/2/2014.

**In case of emergency** : Chemtrec - 1-800-424-9300 or collect 703-527-3887
24/7

**Product type** : Aerosol.

## 2. Hazards identification

**Emergency overview**

**Physical state** : Liquid. [Aerosol.]

**Color** : Clear.

**Odor** : Characteristic.

**Signal word** : DANGER!

**Hazard statements** : EXTREMELY FLAMMABLE AEROSOL. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

**Precautionary measures** : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use personal protective equipment as required. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential acute health effects**

**Inhalation** : Harmful if inhaled. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

**Ingestion** : Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Irritating to mouth, throat and stomach.

**Skin** : Irritating to skin.

**Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.

**Potential chronic health effects**

## 2. Hazards identification

**Chronic effects** : Contains material that can cause target organ damage.

**Carcinogenicity** : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Target organs** : Contains material which causes damage to the following organs: the nervous system, eye, lens or cornea.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, spleen, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS).

**Over-exposure signs/symptoms**

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
dizziness/vertigo
drowsiness/fatigue
headache

**Ingestion** : Adverse symptoms may include the following:
Adverse symptoms may include the following:
nausea or vomiting

**Skin** : Adverse symptoms may include the following:
irritation
redness

**Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**See toxicological information (Section 11)**

## 3. Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| ethanol | 64-17-5 | 10 - 20 |
| 1,1-difluoroethane | 75-37-6 | 5 - 25 |
| Isopropyl alcohol | 67-63-0 | 1 - 5 |
| Carbon dioxide | 124-38-9 | 1 - 5 |
| propyl acetate | 109-60-4 | 1 - 3 |
| n-hexane | 110-54-3 | 0.1 - 3 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

**Flammability of the product** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

## 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Empty containers retain product residue and can be hazardous.

**Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

| Ingredient | Exposure limits |
|---|---|
| ethanol | **ACGIH TLV (United States, 6/2013).**<br>STEL: 1000 ppm 15 minutes.<br>**NIOSH REL (United States, 4/2013).**<br>TWA: 1900 mg/m³ 10 hours.<br>TWA: 1000 ppm 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1900 mg/m³ 8 hours.<br>TWA: 1000 ppm 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 1900 mg/m³ 8 hours.<br>TWA: 1000 ppm 8 hours. |
| 1,1-difluoroethane | **AIHA WEEL (United States, 10/2011).**<br>TWA: 1000 ppm 8 hours. |
| Isopropyl alcohol | **ACGIH TLV (United States, 6/2013).**<br>STEL: 400 ppm 15 minutes.<br>TWA: 200 ppm 8 hours.<br>**NIOSH REL (United States, 4/2013).** |

## 8. Exposure controls/personal protection

| | |
|---|---|
| | STEL: 1225 mg/m³ 15 minutes.<br>STEL: 500 ppm 15 minutes.<br>TWA: 980 mg/m³ 10 hours.<br>TWA: 400 ppm 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 980 mg/m³ 8 hours.<br>TWA: 400 ppm 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>STEL: 1225 mg/m³ 15 minutes.<br>STEL: 500 ppm 15 minutes.<br>TWA: 980 mg/m³ 8 hours.<br>TWA: 400 ppm 8 hours. |
| Carbon dioxide | **ACGIH TLV (United States, 6/2013). Oxygen Depletion [Asphyxiant].**<br>STEL: 54000 mg/m³ 15 minutes.<br>STEL: 30000 ppm 15 minutes.<br>TWA: 9000 mg/m³ 8 hours.<br>TWA: 5000 ppm 8 hours.<br>**NIOSH REL (United States, 4/2013).**<br>STEL: 54000 mg/m³ 15 minutes.<br>STEL: 30000 ppm 15 minutes.<br>TWA: 9000 mg/m³ 10 hours.<br>TWA: 5000 ppm 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 9000 mg/m³ 8 hours.<br>TWA: 5000 ppm 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>STEL: 54000 mg/m³ 15 minutes.<br>STEL: 30000 ppm 15 minutes.<br>TWA: 18000 mg/m³ 8 hours.<br>TWA: 10000 ppm 8 hours. |
| propyl acetate | **ACGIH TLV (United States, 6/2013).**<br>STEL: 1040 mg/m³ 15 minutes.<br>STEL: 250 ppm 15 minutes.<br>TWA: 835 mg/m³ 8 hours.<br>TWA: 200 ppm 8 hours.<br>**NIOSH REL (United States, 4/2013).**<br>STEL: 1050 mg/m³ 15 minutes.<br>STEL: 250 ppm 15 minutes.<br>TWA: 840 mg/m³ 10 hours.<br>TWA: 200 ppm 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 840 mg/m³ 8 hours.<br>TWA: 200 ppm 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>STEL: 1050 mg/m³ 15 minutes.<br>STEL: 250 ppm 15 minutes.<br>TWA: 840 mg/m³ 8 hours.<br>TWA: 200 ppm 8 hours. |
| n-hexane | **ACGIH TLV (United States, 6/2013). Absorbed through skin.**<br>TWA: 50 ppm 8 hours.<br>**NIOSH REL (United States, 4/2013).**<br>TWA: 180 mg/m³ 10 hours.<br>TWA: 50 ppm 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1800 mg/m³ 8 hours.<br>TWA: 500 ppm 8 hours. |

## 8. Exposure controls/personal protection

| | |
|---|---|
| | **OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 180 mg/m³ 8 hours.<br>TWA: 50 ppm 8 hours. |

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

**Physical state** : Liquid. [Aerosol.]

**Flash point** : -29 C

**Color** : Clear.

**Odor** : Characteristic.

**Boiling/condensation point** : Weighted average: 79.27°C (174.7°F)

**Melting/freezing point** : Weighted average: -108.7°C (-163.7°F)

**Relative density** : 0.7

## 9. Physical and chemical properties

**Vapor pressure** : 26.4 kPa (198 mm Hg) [room temperature]

**Vapor density** : 3 Air = 1

**Evaporation rate** : <1

**Aerosol product**

**Type of aerosol** : Spray

**Heat of combustion** : 3.468 kJ/g

## 10. Stability and reactivity

**Chemical stability** : The product is stable.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not spray on a naked flame or any incandescent material. open flames, sparks and static discharge

**Incompatible materials** : Reactive or incompatible with the following materials: Strong oxidizing materials Alkaline. metals alkalis

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| ethanol | LC50 Inhalation Vapor | Rat | 124700 mg/m³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| Isopropyl alcohol | LD50 Dermal | Rabbit | 12800 mg/kg | - |
| | LD50 Oral | Rat | 5000 mg/kg | - |
| propyl acetate | LD50 Oral | Rat | 9370 mg/kg | - |
| n-hexane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LD50 Oral | Rat | 15840 mg/kg | - |

**Conclusion/Summary** : Not available.

**Chronic toxicity**

**Conclusion/Summary** : Not available.

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.066666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Isopropyl alcohol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |

## 11. Toxicological information

| | | | | | |
|---|---|---|---|---|---|
| | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| propyl acetate | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| n-hexane | Eyes - Mild irritant | Rabbit | - | 10 milligrams | - |

**Conclusion/Summary** : Not available.

**Sensitizer**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Classification**

| Product/ingredient name | OSHA | IARC | NTP | ACGIH | EPA | NIOSH |
|---|---|---|---|---|---|---|
| ethanol | - | 1 | - | A3 | - | - |
| Isopropyl alcohol | - | 3 | - | A4 | - | None. |
| propyl acetate | - | - | - | - | - | None. |

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

## 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours |
| | Acute LC50 42000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 4 days |
| | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Chronic NOEC 0.375 ul/L Fresh water | Fish - Gambusia holbrooki - Larvae | 12 weeks |
| Isopropyl alcohol | Acute LC50 1400000 to 1950000 µg/l Marine water | Crustaceans - Crangon crangon | 48 hours |
| | Acute LC50 1400000 µg/l | Fish - Gambusia affinis | 96 hours |
| propyl acetate | Acute LC50 60000 to 64000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| n-hexane | Acute LC50 113000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |

**Conclusion/Summary** : Not available.

**Persistence/degradability**

**Conclusion/Summary** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | - | Consumer commodity ORM-D | ORM-D | - | | Use ORM-D Label |
| TDG Classification | - | Consumer commodity ORM-D | ORM-D | - | | - |
| Mexico Classification | - | Consumer commodity ORM-D | ORM-D | - | | - |
| ADR/RID Class | UN1950 | Aerosol. Flammable | 2.1 | - |  | Tunnel code (D) |
| IMDG Class | 1950 | Aerosols, flammable | 2.1 | - |  | - |
| IATA-DGR Class | 1950 | Aerosol. Flammable | 2.1 | - |  | - |

PG* : Packing group

## 15. Regulatory information

**HCS Classification** : Flammable aerosol
Irritating material
Carcinogen
Target organ effects

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**Clean Air Act (CAA) 112 regulated flammable substances**: 1,1-difluoroethane

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

# 15. Regulatory information

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## SARA 302/304

### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

## SARA 311/312

**Classification** : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

### Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| ethanol | 10 - 20 | Yes. | No. | No. | Yes. | Yes. |
| 1,1-difluoroethane | 5 - 25 | Yes. | Yes. | No. | No. | Yes. |
| Isopropyl alcohol | 1 - 5 | Yes. | No. | No. | Yes. | Yes. |
| Carbon dioxide | 1 - 5 | No. | No. | No. | No. | Yes. |
| propyl acetate | 1 - 3 | Yes. | No. | No. | No. | Yes. |
| n-hexane | 0.1 - 3 | Yes. | No. | No. | Yes. | Yes. |

## SARA 313

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | Isopropyl alcohol<br>n-hexane | 67-63-0<br>110-54-3 | 1 - 5<br>0.1 - 3 |
| **Supplier notification** | Isopropyl alcohol<br>n-hexane | 67-63-0<br>110-54-3 | 1 - 5<br>0.1 - 3 |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

## State regulations

**Massachusetts** : The following components are listed: ETHYL ALCOHOL; DIFLUOROETHANE; ISOPROPYL ALCOHOL; CARBON DIOXIDE; N-PROPYL ACETATE; HEXANE

**New York** : The following components are listed: Hexane

**New Jersey** : The following components are listed: ETHYL ALCOHOL; ALCOHOL; 1, 1-DIFLUOROETHANE; ETHANE, 1,1-DIFLUORO-; ISOPROPYL ALCOHOL; 2-PROPANOL; CARBON DIOXIDE; CARBONIC ACID GAS; n-PROPYL ACETATE; ACETIC ACID, PROPYL ESTER; n-HEXANE; HEXANE

**Pennsylvania** : The following components are listed: DENATURED ALCOHOL; 2-PROPANOL; CARBON DIOXIDE; ACETIC ACID, PROPYL ESTER; HEXANE

**Canada inventory** : All components are listed or exempted.

## International regulations

## 15. Regulatory information

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: Not determined.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

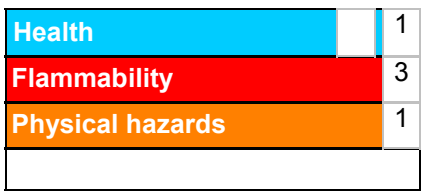
**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : EXTREMELY FLAMMABLE AEROSOL. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

**Hazardous Material Information System (U.S.A.)** :




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)** :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**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

**Date of printing** : **5/2/2014.**

## 16. Other information

**Date of issue** : 5/2/2014.

**Date of previous issue** : 5/1/2014.

**Version** : 3

**Prepared by** : Not available.

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# MATERIAL SAFETY DATA SHEET

*Product Name*: Electrodag 550 (PRODUCT DISCONTINUED)
*Catalog Number*: 60845, 60845HG
*DOT Hazard Class*: Flammable Liquid
*DOT Proper Shipping Name*: Paint
*UN/NA ID No.* : UN1263
*MSDS Prepared*: 9/2009

Distributed By: Ladd Research
83 Holly Court
Williston, VT 05495
(802) 658-4961

Manufacturer: Acheson Colloids Company
1600 Washington Ave.
Port Huron, MI 48060

***INGREDIENTS***

| | *CAS Number* | *Percent* | *Exposure Limits* |
|---|---|---|---|
| Acrylic acid, polymer | 9003-01-4 | 3-7 | None Estab. |
| Proprietary polymer, Non Hazardous | NA | 3-7 | None Estab. |
| n-Propyl acetate | 109-60-4 | 10-30 | 200ppm OSHA PEL |
| n-Butyl acetate | 123-86-4 | 5-10 | 150ppm OSHA PEL |
| n-Amyl acetate | 628-63-7 | 1-5 | 100ppm OSHA PEL |
| Proprietary Non-OSHA Haz. | NA | 1-5 | None Estab. |
| Ethanol | 64-17-5 | 1-5 | 1000ppm OSHA PEL |
| Nickel | 7440-02-0 | 30-60 | 1mg/$m^3$ OSHA PEL |
| Ethyl benzene | 100-41-4 | 0.1-1 | 100ppm OSHA PEL |
| Amorphous silica | 112945-52-5 | 1-5 | 10mg/$m^3$ OSHA PEL |

***PHYSICAL AND CHEMICAL DATA***
**Vapor Pressure:** 21.20mm Hg at 20°C
**Specific Gravity:** 1.62
**Evaporation Rate:** >Butyl acetate
**Solubility in Water:** Insoluble
**Boiling Point:** 215°F
**VOC:** 656 g/l
**Viscosity:** 5500-9600 centipoise
**Reduced VOC:** 752 g/l

***FIRE AND EXPLOSION HAZARD DATA***
**Flashpoint:** 45°F (Pensky-Martens Closed Cup)
**General Hazard:** Easily ignited by heat, sparks or flames.
**Fire Fighting Measures:** Water spray may be inefficient. Alcohol-resistant foam is indicated.

**Hazardous Combustion of Decomposition Products:** Oxides of carbon and oxides of nickel.

***HEALTH HAZARD DATA***
**Ingestion:** Dried film of this product may be harmful if chewed or swallowed. Ingestion may cause CNS and gastrointestinal effects.
**Eye:** Causes severe eye irritation.
**Skin:** Prolonged or repeated exposure causes severe skin irritation.
**Inhalation:** Vapors and mists may irritate eyes, nose and throat.

***EMERGENCY AND FIRST AID***
**Ingestion:** Wash out mouth with water provided person is conscious. Obtain medical assistance. ***Do not induce vomiting.***
**Skin:** Flush with water for 15 minutes and remove contaminated clothing. Consult a physician if irritation occurs.
**Eye:** Flush eyes immediately with plenty water for at least 15 minutes. Obtain immediate medical attention.
**Inhalation:** Remove patient to fresh air. Apply rescue breathing or other supportive measures as necessary. Obtain medical assistance.

***REACTIVITY DATA***
**General:** This product is stable and hazardous polymerization will not occur.
**Incompatible Material and Conditions to Avoid:** Strong oxidizers.

***SPILL, DISPOSAL AND STORAGE INFORMATION***
**Spill:** Eliminate all ignition sources. Absorb or cover with dry earth, sand or other non-combustible material. Transfer to container with non-sparking tools.
**Disposal:** Dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations.
**Storage:** Store at ambient temperature, preferably <90°F. Protect material from direct sunlight.

***PROTECTIVE EQUIPMENT AND CONTROL MEASURES***
**Engineering Controls:** Sufficient mechanical ventilation to maintain exposure below TLV(s).
**Eye:** Vapor tight chemical splash goggles recommended.
**Skin:** Impermeable apron and gloves. Neoprene or nitrile recommended.

***SECTION 313 SUPPLIER NOTIFICATION***
**This product contains the following chemicals listed in Section 313 of SARA Title III:**
Nickel CAS [7440-02-0]
Ethyl Benzene CAS [100-41-4]

**********

The information presented is believed to be correct and is the most accurate information available to us at this time. However, Ladd Research makes no warranty, express or implied, and assumes no liability for this information and the product described herein.

H1BAK1086 Energized Rosin Core Solder 770-1900,2,3,5

MATERIAL SAFETY DATA SHEET

Effective Date: 6-16-94 Revision Date: none

Energized Rosin Core Solder

Code: ALM Page: 1

## Section 1 - Product and Company Identification

PRODUCT NAME: Energized Rosin Core Solder

MANUFACTURER'S NAME:
Alpha Metals
600 Route 440
Jersey City, NJ 07304

EMERGENCY TELEPHONE NUMBER
(800)424-9300

MISCELLANEOUS INFORMATION
(201)434-6778

## Section 2 - Hazardous Ingredients

| INGREDIENTS | CAS NUMBER | WEIGHT PERCENT | OSHA PEL | ACGIH TLV |
|---|---|---|---|---|
| Lead } Product contains | 7439-92-1 | * | 0.05 mg/cum | 0.15 mg/cum |
| Tin } one or more of | 7440-31-5 | * | 2.0 mg/cum | 2.0 mg/cum |
| Silver } these metallic | 7440-22-4 | * | 0.01 mg/cum | 0.1 mg/cum |
| Bismuth } elements in | 7440-69-9 | * | NE | NE |
| Antimony} varying | 7440-36-0 | * | 0.5 mg/cum | 0.5 mg/cum |
| Indium } percentages | 7440-74-6 | * | NE | 0.1 mg/cum |
| Rosin | 8050-09-7 | 1-4 | 0.10 mg/cum | 0.10 mg/cum |

*WEIGHT PERCENT: Composition of solder alloys vary widely therefore no weight percent or specific gravity is given. (See product label for composition.)

## Section 3 - Hazards Indentification

INHALATION: Exposure to rosin fume may cause dizziness and headache. May also cause an allergic reaction such as rash or throat and respiratory irritation in a sensitive person. For overexposure to lead, tin, silver, bismuth, anitmony and indium fume at soldering temperatures see section 11.

INGESTION: Essentially non-hazardous at room temperature (NOT likely to occur.)

SKIN: Molten core solder will cause burns. Repeated exposure to rosin fume may cause a skin rash.

EYES: Molten rosin core flux will cause eye burns. Rosin fume can cause eye irritation.

CHRONIC TOXICITY: See section 11.

LISTED CARCINOGENS: None

## Section 4 - First Aid Measures

INHALATION: If rosin is inhaled when wire is heated to soldering temperatures, remove individual to fresh air. If breathing is difficult administer oxygen and consult a physician.

INGESTION: Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

SKIN CONTACT: For burns cool with water and obtain medical aid. For rash, remove from exposure and consult a physician.

EYE CONTACT: For burns flush immediately with cool water and obtain medical aid. for fume irritaiton remove from exposure.

## Section 5 - Firefighting Measures

ESTIMATED FLAMMABLE LIMITS(% By Volume in Air)
LEL: NA
UEL: NA

FLASH POINT(Deg F): NA

EXTINGUISHING MEDIA: NA

SPECIAL FIRE FIGHTING PROCEDURES: Use NIOSH approved self-contained breathing apparatus and full protective clothing if involved in a fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: When heated to high temperatures, lead emits highly toxic fumes.

## Section 6 - Environmental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Solid at room temperature. If in molten state allow to cool and solidify and then scrape up.

## Section 7 - Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
No special requirements for storage. Read all container labeling. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in areas where core solders may be used. Always wash hands after handling core solder and before eating, drinking or smoking.

OTHER PRECAUTIONS: Containers: Since empty containers may retain product residues (vapors, liquid or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

## Section 8 - Exposure Controls/Personal Protection

RESPIRATORY: If any threshold limit value is exceeded, use NIOSH/MSHA approved respirator.

EYEWEAR: When soldering use safety goggles.

CLOTHING/GLOVES: Not usually necessary.

VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure levels below TLV's.

## Section 9 - Physical and Chemical Properties

(PUBLISHED OR ESTIMATED VALUES)

| | | |
|---|---|---|
| BOILING POINT(Deg F) (760 mm Hg) | : | NA |
| VAPOR PRESSURE (mm Hg at 20 Deg. C) | : | NA |
| VAPOR DENSITY(Air=1) | : | NA |
| SOLUBILITY IN WATER | : | Insoluble |
| APPEARANCE AND ODOR | : | Silver-gray metal wire, odorless, various shapes and sizes. |
| SPECIFIC GRAVITY (H2O=1)(@77 deg F) | : | NA |
| % VOLATILE BY WEIGHT | : | NA |
| EVAPORATION RATE | : | NA |
| pH | : | NA |

## Section 10 - Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: None

INCOMPATABILITY(Materials to Avoid): Oxidizing materials, strong acids

HAZARDOUS DECOMPOSITION PRODUCTS: See section 11.

HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: None

## Section 11 - Toxicological Information

PRODUCT COMPOSTION: (core wire solder)
Rosin Flux: 1-4% Solder Alloy: 96-99%

ALLOY COMPOSTION: (See product label for actual compostion)
Solder core alloy compostion vary widely, therefore no weight percent is given. Some typical alloy compostions are:
Tin 60%, Lead 40% - Tin 62%, Lead 36%, Silver 2% - Tin 95%, Antimony 2%

ROSIN TOXICITY: Oral LD 50 (RATS) > 5000mg/Kg

LEAD TOXICITY: Molten solder alloys do not produce significant lead fumes below 900 deg F. Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, insomnia, weakness, constipation, nausea and abdominal pain. Prolonged exposure may result in kidney and nervous system involvement. Women of child bearing age should avoid exposure to lead due to post-natal effects.

TIN, SILVER, BISMUTH, ANTIMONY AND INDIUM TOXICITY: Overexposure to these elements is not expected.

REACTIVITY DATA (CONTINUED):
HAZARDOUS DECOMPOSTION PRODUCTS: The smoke from a soldering operation using rosin core solder may include such compounds as carbon monoxide, abietic acid, aliphatic aldehydes, and diterpene acids.

## Section 12 - Ecological Information

Not available.

## Section 13 - Disposal Considerations

WASTE DISPOSAL: The alloy portion is reclaimable.

Must be in accordance with Federal, State and Local Laws and Regulations.

## Section 14 - Transport Information

D.O.T. HAZARD CLASS: Not regulated.

## Section 15 - Regulatory Information

CALIFORNIA STATE PROPOSITION 65: WARNING!! This product contains LEAD known to the State of California to cause birth defects or other reproductive harm.

TOXIC SUBSTANCE CONTROL ACT (TSCA) STATUS: All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III(SECTION 313): Components that may be present in this product at a level which could require reporting under the statute are:
Lead - Silver - Antimony

## Section 16 - Other Information

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out if use of this information or the use of any materials designated.

MATERIAL SAFETY DATA SHEET

Ashland


Date Prepared: 07/10/03
Date Printed: 01/10/04
MSDS No: 304.0076106-012.005

# WEP 662 P RESIN

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Material Identity**
Product Name: WEP 662 P RESIN
Product Code: 564780
General or Generic ID: UNSATURATED POLYESTER RESIN

**Company**
Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

**Emergency Telephone Number:**
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredient(s) | CAS Number | % (by weight) |
|---|---|---|
| STYRENE | 100-42-5 | 57.0- 57.0 |
| POLYMER (S) | Trade Secret | 38.0- 42.0 |
| DIMETHYLANILINE | 121-69-7 | 1.0- 1.0 |
| ORGANIC SALT | | 1.0- 3.0 |
| COBALT COMPOUND "A" | | 0.2 |
| COBALT COMPOUND "B" | | 0.2 |

## 3. HAZARDS IDENTIFICATION

**Potential Health Effects**

**Eye**
Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

**Skin**
Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. This material (or a component) is readily absorbed through the skin, and may cause cyanosis which causes blue coloring of the skin and nails from lack of oxygen.

**Swallowing**
Swallowing this material may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

**Inhalation**
Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing this material may be harmful or fatal. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Continued on next page

**Symptoms of Exposure**
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: metallic taste, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, loss of coordination, confusion, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), liver damage, and death, May cause methemoglobinemia, a blood abnormality that may cause headache, difficulty breathing, lightheadedness, weakness, confusion, rapid heart rate and cyanosis (lack of oxygen in the tissues causing blue-colored skin and nails).

**Target Organ Effects**
Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible kidney effects, anemia, effects on hearing, respiratory tract damage (nose, throat, and airways), spleen damage, testis damage, liver damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: mild effects on color vision, blood abnormalities, anemia, effects on hearing, respiratory tract damage (nose, throat, and airways), central nervous system effects.

**Developmental Information**
This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

**Cancer Information**
Cobalt and certain cobalt compounds have been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain. Dimethylaniline has been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain. Dimethylaniline is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration. There was no increase in cancer in rats exposed to styrene by inhalation. However, there was an increase in lung cancer in styrene-exposed mice. The relevance of the mouse lung cancer to humans is uncertain. Styrene did not cause cancer in mice in studies in which the chemical was placed in the stomachs through a feeding tube, or in a study in which styrene was given by injection. Epidemiological studies do not provide a basis for concluding that styrene causes cancer. Styrene is listed as a carcinogen by the International Agency for Research on Cancer (IARC).

**Other Health Effects**
Styrene readily reacts with low concentrations of halogens (for example, fluorine, chlorine, bromine, or iodine) to form a tear-producing substance.

**Primary Route(s) of Entry**
Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion.

## 4. FIRST AID MEASURES

**Eyes**
If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Continued on next page

**Skin**
Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

**Swallowing**
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**
If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Note to Physicians**
This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Absorption of this product may lead to the formation of methemoglobin which, in sufficient concentration, causes cyanosis. Severe cyanosis may require intravenous injection of methylene blue. In the case of aniline-induced methemoglobinemia, methylene blue may not be completely effective in eliminating visible cyanosis. In such instances, repeated injections of methylene blue can markedly aggravate subsequent haemolysis without further lowering methemoglobin content. Methylene blue is contraindicated if the patient has confirmed or suspected glucose-6-phosphate dehydrogenase deficiency. Hyperbaric oxygen therapy or packed RBC exchange transfusions are alternative therapies for patients who are not candidates for methylene blue. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions), liver, blood-forming system, spleen, male reproductive system, auditory system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

## 5. FIRE FIGHTING MEASURES

**Flash Point**
80.0 - 90.0 F (26.6 - 32.2 C) SETA

**Explosive Limit**
(for component) Lower 1.1 Upper 6.1 %

**Autoignition Temperature**
No data

**Hazardous Products of Combustion**
May form: aniline, carbon dioxide and carbon monoxide, nitrogen oxides, toxic fumes, various hydrocarbons.

Continued on next page

**Fire and Explosion Hazards**
Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. During a fire, irritating or toxic decomposition products may be generated.

**Extinguishing Media**
regular foam, water fog, carbon dioxide, dry chemical.

**Fire Fighting Instructions**
Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS. Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.

**NFPA Rating**
Health - 3, Flammability - 3, Reactivity - 2

## 6. ACCIDENTAL RELEASE MEASURES

**Small Spill**
Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Absorb liquid on vermiculite, floor absorbent or other absorbent material. Persons not wearing proper personal protective equipment should be excluded from area of spill.

**Large Spill**
Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks).

## 7. HANDLING AND STORAGE

**Handling**
Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five-gallon pails and larger metal containers, including tank cars and tank trucks, should be grounded and/or bonded when material is transferred. Emergency eyewash fountains and safety showers should be available in the immediate vicinity of potential exposure. Precautions during use: avoid prolonged or frequently repeated skin contact with this material. Skin contact can be mininized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition

Continued on next page

sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

**Storage**
Store in closed containers in a dry, well-ventilated area. Do not store near extreme heat, open flame, or sources of ignition.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye Protection**
Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

**Skin Protection**
Wear impervious gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots. Other protective equipment: eyewash station, emergency shower.

**Respiratory Protections**
If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

**Engineering Controls**
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

**Exposure Guidelines**
Component
---

STYRENE (100-42-5)
OSHA PEL 100.000 ppm - TWA
OSHA PEL 200.000 ppm - Ceiling
OSHA VPEL 50.000 ppm - TWA
OSHA VPEL 100.000 ppm - STEL
ACGIH TLV 20.000 ppm - TWA (Skin)
ACGIH TLV 40.000 ppm - STEL (Skin)

POLYMER (S)
No exposure limits established

DIMETHYLANILINE (121-69-7)
OSHA PEL 5.000 ppm - TWA (Skin)
OSHA VPEL 5.000 ppm - TWA (Skin)
OSHA VPEL 10.000 ppm - STEL (Skin)
ACGIH TLV 5.000 ppm - TWA (Skin)
ACGIH TLV 10.000 ppm - STEL (Skin)

ORGANIC SALT
OSHA PEL 5.000 mg/m3 - TWA respirable fraction
OSHA PEL 15.000 mg/m3 - TWA total dust
OSHA VPEL 5.000 mg/m3 - TWA respirable fraction

Continued on next page

OSHA VPEL 10.000 mg/m3 - TWA total dust

COBALT COMPOUND "A"
No exposure limits established

COBALT COMPOUND "B"
No exposure limits established

OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point**
(for component) 293.4 F (145.2 C) @ 760 mmHg

**Vapor Pressure**
(for component) 4.500 mmHg @ 68.00 F

**Specific Vapor Density**
3.600 @ AIR=1

**Specific Gravity**
1.030 @ 77.00 F

**Liquid Density**
8.600 lbs/gal @ 77.00 F
1.030 kg/l @ 25.00 C

**Percent Volatiles**
No data

**Evaporation Rate**
SLOWER THAN ETHYL ETHER

**Appearance**
CLEAR

**State**
LIQUID

**Physical Form**
HOMOGENEOUS SOLUTION

**Color**
PURPLE

**Odor**
PUNGENT

Continued on next page

**pH**
Not applicable

**Viscosity**
100.0 - 160.0 cps @ #1SPDL @30RPM

**Solubility in Water**
NEGLIGIBLE

## 10. STABILITY AND REACTIVITY

**Hazardous Polymerization**
Product can undergo hazardous polymerization. Avoid exposure to excessive heat, peroxides and polymerization catalysts.

**Hazardous Decomposition**
May form: aniline, carbon dioxide and carbon monoxide, nitrogen oxides, toxic fumes, various hydrocarbons.

**Chemical Stability**
Stable. Avoid heat, open flame, and prolonged storage at elevated temperatures. This material is unstable at elevated temperatures and pressures.

**Incompatibility**
Avoid contact with: acids, aluminum chloride, excessive heat, halogens, iron chloride, metal salts, peroxides, strong acids, strong alkalies, strong oxidizing agents.

## 11. TOXICOLOGICAL INFORMATION

No data

## 12. ECOLOGICAL INFORMATION

No data

## 13. DISPOSAL CONSIDERATION

**Waste Management Information**
Dispose of in accordance with all applicable local, state and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

Continued on next page

## 14. TRANSPORT INFORMATION

**DOT Information - 49 CFR 172.101**

**DOT Description:**
RESIN SOLUTION,3,UN1866,III

**Container/Mode:**
55 GAL DRUM/TRUCK PACKAGE

**NOS Component:**
None

**RQ (Reportable Quantity) - 49 CFR 172.101**

| Product Quantity (lbs) | Component |
|---|---|
| 1757 | STYRENE |
| 10000 | DIMETHYLANILINE |

**Other Transportation Information**
The DOT Transport Information may vary with the container and mode of shipment.

## 15. REGULATORY INFORMATION

**US Federal Regulations**

**TSCA (Toxic Substances Control Act) Status**
TSCA (UNITED STATES) The intentional ingredients of this product are listed.

**CERCLA RQ - 40 CFR 302.4(a)**

| Component | RQ (lbs) |
|---|---|
| STYRENE | 1000 |
| DIMETHYLANILINE | 100 |

**SARA 302 Components - 40 CFR 355 Appendix A**
None

**Section 311/312 Hazard Class - 40 CFR 370.2**
Immediate(X) Delayed(X) Fire(X) Reactive(X) Sudden Release of Pressure( )

**SARA 313 Components - 40 CFR 372.65**

| Section 313 Component(s) | CAS Number | % |
|---|---|---|
| STYRENE | 100-42-5 | 56.91 |
| N,N-DIMETHYLANILINE | 121-69-7 | 1.00 |
| ORGANIC SALT | 557-05-1 | 1.00 |
| COBALT COMPOUND "A" | 27253-31-2 | .21 |
| COBALT COMPOUND "B" | 68955-83-9 | .21 |

**OSHA Process Safety Management 29 CFR 1910**
None listed

**EPA Accidental Release Prevention 40 CFR 68**
None listed

Continued on next page

**Organic Hazardous Air Pollutants (HAPs)**
**40 CFR Part 63 Subpart WWWW and VVVV**

| HAP Component(s) | CAS Number | % (by weight) |
|---|---|---|
| STYRENE, MONOMER | 100-42-5 | 56.91 |
| Total | | 56.91 |

**Volatile Organic Compound (VOC) Content**
62.0 %

**International Regulations**
**Inventory Status**
AICS (AUSTRALIA) The intentional ingredients of this product are listed.
DSL (CANADA) The intentional ingredients of this product are listed.
ECL (SOUTH KOREA) The intentional ingredients of this product are listed.
EINECS (EUROPE) The intentional ingredients of this product are listed.

**State and Local Regulations**
**California Proposition 65**
The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause cancer.
COBALT METAL POWDER
BENZENE
ANILINE
1,4-DIOXANE

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause reproductive harm.
BENZENE
TOLUENE

Styrene, in the presence of air and high temperature or prolonged exposure to styrene/air mixture to sunlight, can react to form styrene oxide. Styrene oxide is a chemical known to the state of California to cause cancer.

**New Jersey RTK Label Information**

| | |
|---|---|
| STYRENE MONOMER | 100-42-5 |
| DIMETHYLANILINE | 121-69-7 |
| ORGANIC SALT | 557-05-1 |

**Pennsylvania RTK Label Information**

| | |
|---|---|
| BENZENE, ETHENYL- | 100-42-5 |
| BENZENAMINE, N,N-DIMETHYL- | 121-69-7 |
| OCTADECANOIC ACID, ZINC SALT | 557-05-1 |

## 16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

ACE HARDWARE CORP/PAINT DIV -- 271A100, 5-STAR TRAFFIC MARKING WHITE -- 8010-00N029005

```
==========  Product Identification  ==========

Product ID:271A100, 5-STAR TRAFFIC MARKING WHITE
MSDS Date:10/01/1986
FSC:8010
NIIN:00N029005
MSDS Number: BMVNF
=== Responsible Party ===
Company Name:ACE HARDWARE CORP/PAINT DIV
Address:21901 SOUTH CENTRAL AVENUE
City:MATTESON
State:IL
ZIP:60443
Country:US
Info Phone Num:312-720-0600
Emergency Phone Num:312-720-0600
CAGE:ACEHA
=== Contractor Identification ===
Company Name:ACE HARDWARE CORPORATION
Address:21901 SOUTH CENTRAL AVENUE
City:MATTESON
State:IL
ZIP:60443
Country:US
Phone:708-720-0600
CAGE:ACEHA

==========  Composition/Information on Ingredients  ==========

Ingred Name:KEROSENE (PETROLEUM), HYDROTREATED; (MINERAL SPIRITS). VP:
    2.0
CAS:64742-47-8
RTECS #:OA5504000
Fraction by Wt: 13.5%
OSHA PEL:500 PPM (MFR)
ACGIH TLV:100 PPM (MFR)

Ingred Name:VM&P NAPHTHA. VP: 12.0
CAS:64742-48-9
Fraction by Wt: 15.0%
OSHA PEL:300 PPM;400 STEL
ACGIH TLV:300 PPM

==========  Hazards Identification  ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES  Skin:NO  Ingestion:YES
Reports of Carcinogenicity:NTP:NO    IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE: INHAL IS ANESTHETIC. IRRITATION
    OF RESPIRATORY TRACT OR NERVOUS SYSTEM DEPRESSION. HEADACHE,
    DIZZINESS, NAUSEA, CONFUSION, UNCONSCIOUSNESS OR COMA. SKIN/EYE
    CONT: PRIMARY IRRITATION. DURING EME RGENCY CONDITIONS OVEREXPOSURE
    TO DECOMPOSITION PRODUCTS MAY CAUSE HLTH HAZARDS. SYMPS MAY NOT BE
    (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT.
Effects of Overexposure:HLTH HAZ: IMMED APPARENT. CHRONIC: REPORTS HAVE
    ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO
    SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

==========  First Aid Measures  ==========

First Aid:INHAL: REMOVE FROM EXPOSURE. RESTORE BREATHING. KEEP WARM AND
    QUIET, NOTIFY PHYS. EYES: FLUSH IMMED WITH RUNNING WATER FOR AT
    LEAST 15 MIN. SKIN: WASH WITH SOAP AND WATER AND APPLY SKIN CREAM.
    NOTIFY  PHYS IN ALL CASES. INGEST: CALL MD .
```

========== Fire Fighting Measures ==========

Flash Point:60.0F,15.6C
Lower Limits:0.9%
Extinguishing Media:FOAM, "ALCOHOL" FOAM, CO2, DRY CHEMICAL.
Fire Fighting Procedures:NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP. H2O MAY BE INEFTIVE. H2O MAY BE USED TO COOL CLSD CONTR TO PVNT PRESS BUILD-UP & POSS AUTO IGNIT (SUPP DATA)
Unusual Fire/Explosion Hazard:KEEP CONTR TIGHTLY CLSD. ISOLATE FROM HEAT, ELEC EQUIP, SPARKS, & OPEN FLAME. HEAT MAY CAUSE PRESSURE BUILD-UP IN CLOSED CONTR, H2O MAY BE USED TO COOL.

========== Accidental Release Measures ==========

Spill Release Procedures:REMOVE ALL SOURCES OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:DOL STORAGE CATEGORY 1B.
Other Precautions:CONTENTS ARE COMBUSTIBLE. KEEP AWAY FROM HEAT/OPEN FLAME. USE ONLY W/ADEQ VENT. AVOID BRTHG VAP/SPRAY MIST. AVOID CONT W/SKIN/ EYES. KEEP CONTR CLSD WHEN NOT IN USE. DO NOT TRANSFER CONTENTS TO OTHER CONTR FOR STORAGE. DO NOT (SUPP DATA)

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:IF ENGINEERING AND ADMINISTRATIVE CONTROLS OF AIR CONTAMINANTS ARE NOT POSSIBLE, USE NIOSH/MSHA APPROVED RESPIRATORY DEVICES FOR PROTECTION AGAINST SPRAY MIST AND VAPORS.
Ventilation:LOCAL EXHAUST PREFERABLE. MECH(GEN) EXHAUST ACCEPTABLE. SPECIAL VENTILATION REQUIRED TO KEEP BELOW TLV AND LEL.
Protective Gloves:IMPERVIOUS GLOVES .
Eye Protection:CHEMICAL WORKERS GOGGLES .
Other Protective Equipment:NONE SPECIFIED BY MANUFACTURER.
Work Hygienic Practices:REMOVE AND WASH CONTAMINATED CLOTHING, DISCARD CONTAMINATED SHOES. WASH HANDS AFTER USING.
Supplemental Safety and Health
FIRE FIGHT PROC: OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. OTHER PREC: TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. CONSULT NFPA CODE. USE APPROVED AND BONDING PROCEDURES.

========== Physical/Chemical Properties ==========

HCC:F2
Boiling Pt:B.P. Text:>250F,>121C
Vapor Pres:SEE INGRED
Vapor Density:HVR/AIR
Spec Gravity:1.4
Evaporation Rate & Reference:SLOWER THAN ETHER
Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.
Percent Volatiles by Volume:59.92

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
NONE REASONABLY FORESEEABLE.
Stability Condition to Avoid:HIGH TEMPERATURES, OPEN FLAME.
Hazardous Decomposition Products:BY FIRE: CO2 AND CO.

========== Disposal Considerations ==========

Waste Disposal Methods:INCINERATE IN APPROVED FACILITY. DO NOT INCINERATE CLOSED CONTAINERS. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING POLLUTION.

Disclaimer (provided with this information by the compiling agencies):

SPEREX/VHT CORP -- FLAMEPROOF COATING (AEROSOL) SP-100 SERIES -- 8010-00N010853

```
==========  Product Identification  ==========

Product ID:FLAMEPROOF COATING (AEROSOL) SP-100 SERIES
MSDS Date:04/05/1989
FSC:8010
NIIN:00N010853
MSDS Number: BZZSL
=== Responsible Party ===
Company Name:SPEREX/VHT CORP
Address:16131 S MAPLE AVE
City:GARDENA
State:CA
ZIP:90248
Country:US
Info Phone Num:213-323-6162
Emergency Phone Num:213-323-6162
CAGE:HO618
=== Contractor Identification ===
Company Name:ADVANCED PACKING & PRODUCTS COMPANY
Address:16131 S. MAPLE AVE
Box:City:GARDENA
State:CA
ZIP:90243
Country:US
Phone:1-310-323-6165
CAGE:55774
Company Name:SPEREX/VHT CORP
Address:16131 S MAPLE AVE
Box:City:GARDENA
State:CA
ZIP:90248
Country:US
Phone:213-323-6162
CAGE:HO618

==========  Composition/Information on Ingredients  ==========

Ingred Name:PIGMENT
Fraction by Wt: 2.3%
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:SILICATES
Fraction by Wt: 2.0%
OSHA PEL:10 MG/M3
ACGIH TLV:10 MG/M3

Ingred Name:SILICONE
Fraction by Wt: 6.0%
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:PROPIONIC ACID, 3-ETHOXY-, ETHYL ESTER;
    (ETHYL-3-ETHOXYPROPIONATE) VP:1.11 @ 77F
CAS:763-69-9
RTECS #:UF3325000
Fraction by Wt: 0.9%
OSHA PEL:N/K
ACGIH TLV:500 PPM (MFR)

Ingred Name:TOLUENE; (AROMATIC HYDROCARBONS) (SARA 313) (CERCLA) VP:22
```

@ 68F
CAS:108-88-3
RTECS #:XS5250000
Fraction by Wt: 13.8%
OSHA PEL:200 PPM
ACGIH TLV:S, 50 PPM
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:METHANE, DICHLORO-; (CHLORINATED HYDROCARBONS) (SARA 313) (CERCLA) VP:350 @ 20C
CAS:75-09-2
RTECS #:PA8050000
Fraction by Wt: 47.0%
OSHA PEL:500 PPM
ACGIH TLV:50 PPM, A2
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:PETROLEUM GAS (LIQUEFIED); (PROPELLANT-ISOBUTANE & PROPANE) VP:70 @ 70F
CAS:68476-85-7
RTECS #:SE7545000
Fraction by Wt: 28.0%
OSHA PEL:1000 PPM
ACGIH TLV:1000 PPM

Ingred Name:PROPANE, 2-METHYL; (ISOBUTANE)
CAS:75-28-5
RTECS #:JZ4300000
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:PROPANE
CAS:74-98-6
RTECS #:TX2275000
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:BENZENE (SARA 313) (CERCLA)
CAS:71-43-2
RTECS #:CY1400000
Fraction by Wt: >0.01%N/
OSHA PEL:SEE 1910.1028
ACGIH TLV:10 PPM; A2
EPA Rpt Qty:10 LBS
DOT Rpt Qty:10 LBS

Ingred Name:EFTS OF OVEREXP:LIST INFO & SAFE HNDLG & EXPOS INFO . CNTNS TRACE OF BENZENE WHICH IS KNOWN TO STATE OF (ING 12)
RTECS #:9999999ZZ

Ingred Name:ING 11:CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM.
RTECS #:9999999ZZ

Ingred Name:EXPLAN OF CARCIN:CARCIN. FED REGISTER, VOL 42, PG 34460, 1987:OSHA-CANCER HAZ. HUMAN:MYELOID LEUKEMIA, (ING 14)
RTECS #:9999999ZZ

Ingred Name:ING 13:HODGKINS DISEASE, LYMPHOMA.
RTECS #:9999999ZZ

========== Hazards Identification ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:ACUTE:CHLOROCARB MATLS HAVE PRDCED SENSIT OF MYOCARDIUM TO EPINEPHRINE IN LAB ANIMALS & COULD HAVE

SIMILAR EFT IN HUMANS. ADRENOMIMETICS (E.G., EPINEPHRINE) MAY BE CONTRAINDICATED EXCEPT FOR LIFE-SUST AINING USES IN HUMANS ACUTELY/CHRONICALLY EXPOSED TO CHLORCARBS . MAY BE HARMFUL OR FATAL IF (EFTS OF OVEREXP)
Explanation of Carcinogenicity:BENZENE:IARC MONOGRAPHS, SUPP, VOL 6, PG 120, 1987:GROUP 1. NTP 7TH ANNUAL RPT ON CARCINS, 1994:KNOWN TO BE (ING 13)
Effects of Overexposure:HLTH HAZS:SWALLOWED. EXCESSIVE INHAL OF VAPS CAUSES HDCH, NAUS & INCOORD. MAY BE IRRIT TO EYES & SKIN. TOX IMPACT OF PROD HAVE NOT BEEN INVESTIGATED. RPTD EXPOS MAY PRESENT ADDNL HAZS. CHRONIC:TOLUENE APPEARS ON OCCUP CHEM REPRO HAZS LIST.SEEK CONSULTATION FROM APPROP HLTH PROFESSIONALS CONCERNING LATEST HAZ (ING 11)
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

========== First Aid Measures ==========

First Aid:INHALATION:REMOVE TO FRESH AIR. IF NEEDED ADMINISTER ARTIFICIAL RESPIRATION OR OXYGEN. CALL A PHYSICIAN. INGESTION:CALL A PHYSICIAN. DO NOT INDUCE VOMITING. ASPIRATION MAY LEAD TO PNEUMONITIS. SKIN:WA SH WITH SOAP AND WATER. CALL A PHYSICIAN. EYES:FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

========== Fire Fighting Measures ==========

Flash Point:19.0F,-7.2C
Extinguishing Media:FOAM, CO*2, DRY CHEMICAL.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPRVD PRESS DEMAND SCBA & FULL PROT EQUIP . CAUTN:COMBUST LIQ. BURNING MAY PRDCE IRRIT HAZ PRODS OF COMBUST INCLUDING FUMES, SMK,(SUPDAT)
Unusual Fire/Explosion Hazard:KEEP WORK & STOR AREAS FREE OF FLAMES, HOT METAL SURFS, ELEC SPKS & OTHER SOURCES OF IGNIT. EXPOS TO EXCESSIVE HEAT & EXTREME TEMPS BUILDS UP PRESS IN (SUP DAT)

========== Accidental Release Measures ==========

Spill Release Procedures:REMOVE SOURCES OF IGNITION AND VENTILATE AREA. COVER WITH AN INERT, ABSORBENT MATERIAL AND REMOVE TO DISPOSAL CONTAINER. OBEY ALL RELEVANT FEDERAL, STATE AND LOCAL LAWS.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:KEEP OUT OF REACH OF CHILDREN. COMBUST LIQ. KEEP CNTNRS CLSD WHEN NOT IN USE. KEEP AWAY FROM HEAT, SPKS & OPEN FLAMES. AVOID BRTHG VAPS.
Other Precautions:USE W/ADEQ VENT. AVOID EYE CONT & PRLNGD/RPTD SKIN CONT. NO SMKING IN AREA OF USE. DO NOT USE IN GEN VICIN OF ARC WELDING, OPEN FLAMES/HOT SURFS. HEAT &/OR UV RADIA MAY CAUSE FORM OF HCL &/OR PHOSGENE .

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:NIOSH/MSHA APPROVED MASK REQUIRED.
Ventilation:LOCAL EXHAUST RECOMMENDED.
Protective Gloves:IMPERVIOUS GLOVES .
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
Other Protective Equipment:ANSI APPROVED EMERGENCY EYE WASH AND DELUGE SHOWER .
Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING.
Supplemental Safety and Health
FIRE FIGHT PROC:CARBON DIOXIDE &/OR CARBON MONOXIDE. AVOID SPREADING LIQ & FLAME BY WATER FLOODING. USE WATER TO COOL DOWN ADJACENT CNTNRS. EXPLO HAZS:CLSD CNTNRS & MAY BURST/EXPLODE (ESP IF PACKAGED IN AEROSOL SPRAY CANS WHICH ALSO CNTN FLAM PROPELLANTS). THERMAL DECOMP PRODS MAY INCLUDE HCL & PHOSGENE .

========== Physical/Chemical Properties ==========

Vapor Pres:SEE INGS
Vapor Density:HVR/AIR
Evaporation Rate & Reference:SLOWER THAN ETHER
Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.
Percent Volatiles by Volume:89.7

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
NONE SPECIFIED BY MANUFACTURER.
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:BURNING MAY CAUSE IRRITATING OR TOXIC
FUMES, CARBON MONOXIDE AND/OR CARBON DIOXIDE. HCL & PHOSGENE .

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSAL MUST BE I/A/W FEDERAL, STATE & LOCAL
REGULATIONS .

# SAFETY DATA SHEET



## SECTION 1 – COMPANY and PRODUCT IDENTIFICATION

MANUFACTURER
**GARDNER-GIBSON CORPORATION**
**4161 East 7th Avenue**
**Tampa, FL 33605**

**EMERGENCY TELEPHONE NUMBER**
**1-800-424-9300 CHEMTREC**

**Product Information**
**813-248-2101**
**gardner-gibson.com**

Product Class
**Acrylic latex sealant used in building construction.**

**Product Code Number**
**0338-GA (1 quart)**

Trade Name
**Leak Stopper Clear Patch**

## SECTION 2 – HAZARDS IDENTIFICATION

**Product Classification:** No need for classification according to GHS criteria.

**Effects of acute toxicity:**
EYES: Direct contact may cause irritation.
SKIN: May cause irritation to sensitive skin or open wounds.
INHALATION: May cause irritation to respiratory passages.
INGESTION: May cause nausea.

**Precautions:**
Wear suitable protective clothing, gloves and eye protection.
If the product adheres to exposed skin, irritation may occur when the product dries.
Use with local exhaust ventilation.
Do not take internally. Wash hands before eating or drinking.

## SECTION 3 – COMPOSITION / INFORMATION on INGREDIENTS

| INGREDIENT | Content (By Weight) | TLV PPM | PEL - TWA PPM |
|---|---|---|---|
| **2,2,4-Trimethyl-1,3-pentanediol Monoisobutyrate CAS # 25265-77-4** | 1.0 - 2.0% | N.E. | N.E. |
| **2-Amino-2-methyl-1-propanol CAS # 124-68-5** | 1.0 - 2.0% | N.E. | N.E. |
| **All nonhazardous ingredients in this waterborne product are trade secret.** | 96.0 - 98.0% | N.A. | N.A. |

There are no ingredients in this product of unknown acute toxicity.

**N.E. = Not Established** **N.A. = Not Applicable**

## SECTION 4 – FIRST-AID MEASURES

**Inhalation:** If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. If signs/symptoms of difficulty in breathing continue, get immediate medical attention.

**Skin:** Rinse skin immediately with plenty of clean water for 5 to 10 minutes. Remove contaminated clothing. If skin irritation occurs get medical advice/attention.

**Eye(s):** Rinse cautiously with water for several minutes. Remove contact lenses if present and if it is easy to do so. Continue rinsing. If eye irritation persists get medical advice/attention.

**Ingestion:** If swallowed, do not induce vomiting. If conscious, give 2 to 3 glasses of water and seek medical advice/attention immediately.

## SECTION 5 – FIRE-FIGHTING MEASURES

**Extinguishing Media:** Carbon dioxide, dry chemical, foam, or water spray

**Unusual Fire and Explosion Hazards:** None known

**Special Fire Fighting Procedures:** Water can be used to cool fire-exposed containers. Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Steps to be taken in case material is released or spilled:** Observe all personal protective equipment recommendations described in Section 8. Wipe up or scrape up spilled material and contain for disposal. Final cleaning may require use of hot water and/or detergents. Dispose of saturated absorbent or cleaning materials appropriately.

## SECTION 7 – HANDLING and STORAGE

**Precautions for safe handling:** Keep away from extreme heat. Do not get in eyes, on skin, on clothing. Do not swallow product. Wash thoroughly after handling. Use with adequate ventilation.

**Conditions for safe storage:** Store in a cool, dry place in the original container. Keep container closed when not in use. Store the product away from strong oxidizing chemicals. Avoid extreme heat. Store above 7 °C (45 °F). Product will freeze below 0 °C (32 °F).

## SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

**Respiratory Protection:** Use with adequate ventilation.
**Skin Protection:** Chemical resistant gloves are recommended for prolonged exposure.
**Eye Protection:** Wear safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT: None required.

## SECTION 9 – PHYSICAL and CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance (Physical state, color): | Thick fluid paste, milky-white when wet, dries clear |
| Odor: | Mild, acrylic-like |
| Odor Threshold: | No information is available. |
| pH: | 7.5 – 8.5 |
| Melting point: | No data is available. |
| Initial Boiling Point & Boiling Range: | 100 °C to 244 °C (212 °F to 471 °F) |
| Flash Point: | >94 °C (>201 °F) |
| Evaporation Rate: | Slower than Ether |
| Flammability: | Nonflammable |
| Upper/Lower Flammability Limits: | No data is available. |
| Vapor Pressure: | 17.5 mm Hg @ 20 °C (68 °F) |
| Vapor Density: | Heavier than air |
| Density: | 1.06 g/cm$^3$ (8.8 Lbs/gal) 21 °C (70 °F) |
| Solubility (in water): | Dispersible in water |
| Partition coefficient (n-octanol/water): | No data is available. |
| Auto-ignition temperature: | No data is available. |
| Decomposition temperature: | >250 °C (482 °F) |
| Viscosity (Brookfield RV, 5 rpm): | 300,000 cP ±60,000 @ 21 °C (70 °F) |

## SECTION 10 – STABILITY and REACTIVITY

**Reactivity:** No hazardous reactions if stored and handled as prescribed.

**Chemical Stability:** The product is stable if stored and handled as prescribed.

**Hazardous decomposition products:** Carbon dioxide, carbon monoxide, and hydrocarbons.

**Hazardous polymerization:** Will not occur. The product is chemically stable.

## SECTION 11 – TOXICOLOGICAL INFORMATION

**Primary routes of exposure:** Routes of entry for the product into the human body are accidental ingestion, accidental eye contact, and prolonged skin contact. Inhalation of the vapor released from the product as it dries is dependent upon the absence of proper ventilation during use of the product.

**Acute Toxicity/Effects:**
EYES: Direct contact may cause irritation.
SKIN: May cause irritation to sensitive skin or open wounds.
INHALATION: May cause irritation to respiratory passages.
INGESTION: May cause nausea/gastrointestinal distress.

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

# SAFETY DATA SHEET



## SECTION 11 – TOXICOLOGICAL INFORMATION (continued from page 3)

No human toxicological studies (Oral, Inhalation or Dermal) have been conducted on this compounded product.

No animal toxicological studies (Oral, Inhalation or Dermal) have been conducted on this compounded product.

**Chronic Toxicity/Effects:**
EYES: No data available.
SKIN: No data available.
INHALATION: No data available.
INGESTION: No data available.

## SECTION 12 – ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecological Fate:** | * No data available. |
| **Persistence/Degradability:** | * No data available. |
| **Bioaccumulation Potential:** | * No data available. |
| **Mobility in Soil:** | * No data available. |

## SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of unused product and/or empty containers in accordance with local, regional, national, and/or international regulations.
Do not discharge into drains/surface waters/groundwater or open ground/soil.

## SECTION 14 – TRANSPORT INFORMATION

**DOT Proper Shipping Name:** Not Regulated by D.O.T. **DOT Hazard Class:** None
**DOT UN/NA Number:** None **Packing Group:** None

**IMO/IMDG – International Maritime Transport Shipping Name:** Not Regulated.
**IATA – International Air Transportation Association:** Not Regulated.

Do not transport this product on passenger seats or inside the passenger compartment of any vehicle. Transport product in the cargo area of the vehicle and secure it on and under protective cloths or plastic wrap to prevent damage due to accidental spills.

## SECTION 15 – REGULATORY INFORMATION

SARA Title III – No substances are contained in this product subject to the reporting requirements of EPCRA Section 313 of the Super Fund Amendments and Reauthorization Act, 40 CFR Part 372.
TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
California Proposition 65 Chemical Warning (California Health and Safety Code #25249.5 et seq): This product contains chemicals known to the state of California to cause cancer, birth defects or reproductive harm.

# SAFETY DATA SHEET



## SECTION 16 – OTHER INFORMATION

**Hazardous Materials Identification System (HMIS)**

| Health | Flammability | Physical Hazard | Personal Protection Equipment (PPE) |
|---|---|---|---|
| 1 | 0 | 0 | **B –** Safety glasses and gloves |

**Legend: 0 =** Insignificant **1 =** Slight **2 =** Moderate **3 =** High

Other Precautions**:** Keep out of the reach of children.
Protect from freezing.

**Disclaimer/Statement of Liability:**
This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for a particular use. Gardner-Gibson does not accept liability for any loss or damage that may occur from the use of this information.

**Prepared by: Morton Jones**
**2-6-15**
**Product # 0338-GA**

SAFETY DATA SHEET

# Signet Glass & Multi-Surface Cleaner

**Version Number:** 6 **Preparation date:** 2015-08-06

## 1. IDENTIFICATION

**Product name:** Signet Glass & Multi-Surface Cleaner
**Product Code:** 95517666
**SDS #:** MS0800239
**Recommended use:** • Cleaning product
• This product is intended to be diluted prior to use
**Uses advised against:** Uses other than those identified are not recommended

**Manufacturer, importer, supplier:**
US Headquarters
Diversey, Inc.
8310 16th St.
Sturtevant, Wisconsin 53177-1964
Phone: 1-888-352-2249

Canadian Headquarters
Diversey, Inc. - Canada
3755 Laird Road
Mississauga, Ontario L5L 0B3
Phone: 1-800-668-7171

**Emergency telephone number:** 1-800-983-4582

## 2. HAZARDS IDENTIFICATION

**Classification for the undiluted product**
Serious eye damage/eye irritation Category 2A

**Signal Word:** **Warning.**

**Precautionary Statements**
**CAUSES SERIOUS EYE IRRITATION.**
Avoid contact with eyes, skin and clothing. Wash affected areas thoroughly after handling. May cause irritation to mouth, throat and stomach. Wear chemical-splash goggles and chemical-resistant gloves. IF SWALLOWED: Rinse mouth. Drink a cupful of milk or water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice or attention. Dispose of in accordance with all federal, state and local applicable regulations.

**Health hazards not otherwise classified (HHNOC)** - Not applicable
**Physical hazards not otherwise classified (PHNOC)** - Not applicable

**Classification for the diluted product** @ 1:40
This product, when diluted as stated on the label, is not classified as hazardous according to OSHA 29CFR 1910.1200 (HazCom 2012-GHS) and Canadian Hazardous Products Regulations (HPR) (WHMIS 2015-GHS).

**Precautionary Statements**
None required.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Classified Ingredients

| Ingredient(s) | CAS # | Weight % |
|---|---|---|
| Alcohol ethoxylates | 68439-46-3 | 1% - < 3% |
| Sodium lauryl sulfate | 151-21-3 | 1% - < 3% |
| Sodium lauryl ether sulfate | 9004-82-4 | 1% - < 3% |

*Exact percentages are being withheld as trade secret information

## 4. FIRST AID MEASURES

### Undiluted Product:

**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
**Skin:** Rinse with plenty of water. If irritation occurs and persists, get medical attention.
**Inhalation:** No specific first aid measures are required.
**Ingestion:** IF SWALLOWED: Rinse mouth. Drink a cupful of milk or water.

**Most Important Symptoms/Effects:** No information available.
**Immediate medical attention and special treatment needed** Not applicable.
**Aggravated Medical Conditions:** None known.

### Diluted Product:

**Eyes:** Rinse with plenty of water If irritation occurs and persists, get medical attention.
**Skin:** Rinse with plenty of water If irritation occurs and persists, get medical attention.
**Inhalation:** No specific first aid measures are required
**Ingestion:** Rinse mouth with water.

## 5. FIRE-FIGHTING MEASURES

**Specific methods:** No special methods required
**Suitable extinguishing media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
**Specific hazards:** None known.

**Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
**Extinguishing media which must not be used for safety reasons:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Put on appropriate personal protective equipment (see Section 8.).
**Environmental precautions and clean-up methods:** Clean-up methods - large spillage. Use appropriate containment to avoid environmental contamination. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Keep in suitable and closed containers for disposal. Use a water rinse for final clean-up.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin and eyes. Wash thoroughly after handling. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.
**Storage:** Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.
**Aerosol Level (if applicable) :** Not applicable

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Ingredient(s) | CAS # | ACGIH | OSHA |
|---|---|---|---|
| Alcohol ethoxylates | 68439-46-3 | - | - |
| Sodium lauryl sulfate | 151-21-3 | - | - |
| Sodium lauryl ether sulfate | 9004-82-4 | - | - |

**Undiluted Product:**

**Engineering measures to reduce exposure:**
No special ventilation requirements General room ventilation is adequate

**Personal Protective Equipment**

**Eye protection:** Chemical-splash goggles.
**Hand protection:** Chemical-resistant gloves.
**Skin and body protection:** No special requirements under normal use conditions.
**Respiratory protection:** No special requirements under normal use conditions.
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

**Diluted Product:**

**Personal Protective Equipment**

**Eye protection:** No personal protective equipment required under normal use conditions.
**Hand protection:** No personal protective equipment required under normal use conditions.
**Skin and body protection:** No personal protective equipment required under normal use conditions.
**Respiratory protection:** No personal protective equipment required under normal use conditions.
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Evaporation Rate:** No information available
**Odor threshold:** No information available.
**Melting point/range:** Not determined
**Autoignition temperature:** No information available
**Solubility in other solvents:** No information available
**Density:** 8.34 lbs/gal 1 Kg/L
**Bulk density:** No information available
**Flash point:** > 200 °F > 93.3 °C
**Dilution Flash Point:** > 200 °F > 93.3 °C
**Elemental Phosphorus:** 0.0 % by wt.
**pH:** 7.0
**Dilution pH:** 7.0 @ 1:40
**Metal Corrosion:** Not determined
**Explosion limits: - upper:** Not determined **- lower:** Not determined

**Color:** Clear, Blue
**Odor:** No Odor/Odorless
**Boiling point/range:** Not determined
**Decomposition temperature:** Not determined
**Solubility:** Completely Soluble
**Relative Density (relative to water):** 1.00
**Vapor density:** No information available
**Vapor pressure:** No information available.
**Partition coefficient (n-octanol/water):** No information available
**Viscosity:** No information available
**VOC:** 0.32 % *
**VOC % by wt. at use dilution** 0.01 % *
**Flammability (Solid or Gas):** Not applicable

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not Applicable
**Stability:** The product is stable
**Hazardous decomposition products:** None reasonably foreseeable.
**Materials to avoid:** Do not mix with any other product or chemical unless specified in the use directions.
**Conditions to avoid:** Do not freeze.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Skin contact, Eye contact, Inhalation

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure**
**Skin contact:** May be mildly irritating to skin. Symptoms may include redness and/or transient discomfort.
**Eye contact:** Causes serious eye irritation. Symptoms may include pain, redness, and watering.
**Ingestion:** May be irritating to mouth, throat and stomach. Symptoms may include stomach pain and nausea.
**Inhalation:** May be irritating to nose, throat, and respiratory tract. Symptoms may include coughing and difficulty breathing.
**Sensitization:** No known effects.

**Target Organs (SE):** None known
**Target Organs (RE):** None known

**Carcinogen Listings: Statment per route of exposure or specific component** Ethyl alcohol is only classified as an IARC 1 carcinogen when it is meant for ingestion in alcoholic beverages. We do not produce alcoholic beverages; therefore it is not considered a carcinogen in our products.

| Ingredient(s) | CAS # | NTP | IARC | OSHA |
|---|---|---|---|---|
| Ethyl alcohol | 64-17-5 | | - | |

**Numerical measures of toxicity**
**ATE - Oral (mg/kg):** >5000
**ATE - Inhalatory, mists (mg/l):** >20

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available.

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:** This product, as sold, if discarded or disposed, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Dispose in compliance with all Federal, state, provincial, and local laws and regulations. This product, when diluted as stated on this SDS, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations.
**Contaminated Packaging:** Do not re-use empty containers.
**RCRA Hazard Class (undiluted product):** Not Regulated
RCRA Hazard Class (diluted product): Not Regulated

## 14. TRANSPORT INFORMATION

**DOT/TDG/IMDG:** Proper shipping descriptions can vary by pack size. Please refer to the Diversey HazMat Library, **only available through Internet Explorer**, http://naextranet.diversey.com/dot/, for up to date shipping information.

**DOT (Ground) Bill of Lading Description:** CLEANING, WASHING, BUFFING, OR POLISHING COMPOUNDS LIQUID

**IMDG (Ocean) Bill of Lading Description:** CLEANING, WASHING, BUFFING, OR POLISHING COMPOUNDS LIQUID

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations**

**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK)**

| Ingredient(s) | CAS # | MARTK: | NJRTK: | PARTK: | RIRTK: |
|---|---|---|---|---|---|
| Water | 7732-18-5 | - | - | - | - |
| Alcohol ethoxylates | 68439-46-3 | - | - | - | - |
| Sodium lauryl sulfate | 151-21-3 | - | - | - | - |
| Sodium lauryl ether sulfate | 9004-82-4 | - | - | - | - |
| Ethyl alcohol | 64-17-5 | X | X | X | - |

**CERCLA/ SARA**

**CAA HAP/CAA ODS/CWA Priority Pollutants: None**

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Immediate:** | x |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

## Canadian Regulations

## 16. OTHER INFORMATION

**NFPA (National Fire Protection Association)**
Rating Scale: (Low Hazard) 0 - 4 (Extreme Hazard)

**Health** 2
**Flammability** 0
**Instability** 0

**Version Number:** 6
**Preparation date:** 2015-08-06

**Reason for revision:** Not applicable
**Prepared by:** NAPRAC

*Notice to Reader: This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, express or implied, as to the accuracy of the information contained within. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.*

# MATERIAL SAFETY DATA SHEET

**PortionPac Chemical Corporation**
400 N. Ashland Avenue, Chicago, IL 60622 -6382
Voice: 312/226-0400 Fax: 312/226-5400
Internet: www.portionpaccorp.com

**24 HOUR EMERGENCY RESPONSE PHONE: 1-800-535-5053**

## ■ SECTION 01 IDENTIFICATION

**MSDS NO. 1400 Series REVISED: April 2010**

TRADE NAME: **CorrectPac® Glass Cleaner No. CP1432**
**CorrectPac® DepotPac® Glass Cleaner No. CP1405**

**NOTE:** CAS Registry numbers are not applicable to formulated products.

## ■ SECTION 02 PHYSICAL & HEALTH HAZARDOUS INGREDIENTS

Hazardous Material as defined by 29 CFR 1910.1200 Reportable under CERCLA or SARA TITLE III Sec. 304 Regulations.

| | | |
|---|---|---|
| Common Names: | isopropanol, IPA, 2-propanol | CAS# 67-63-0 |
| Chemical Name: | isopropyl alcohol | |
| Hazard % in Formula: | in concentrate: 12.5 % in working/use solution: 0.4% | |
| Hazard Reference: | TLV:TWA 400ppm (980 mg $m^3$) NIOSH 400 ppm 10hrTWA IDLH 20.000ppm | |

## ■ SECTION 02A OTHER INGREDIENTS NOT CONSIDERED HAZARDOUS IN FORMULATION

| | |
|---|---|
| water | CAS# 7732-18-5 |
| diethylene glycol ethyl ether | CAS# 111-90-0 |
| polyglycoside | CAS# 110615-47-9 |
| trace fragrance and colorant | n.a. |

## ■ SECTION 03 PHYSICAL & CHEMICAL CHARACTERISTICS

| | |
|---|---|
| Boiling Point: | 180 deg. F. (initial) |
| Vapor Pressure: | 31 mm Hg |
| Vapor Density (air=1): | Not determined. |
| Water Solubility: | Complete. |
| Melting/Freezing Point: | < 0 deg. F. |
| Appearance: | Clear blue liquid. |
| Specific Grav. (water=1): | 0.994 |
| Evaporation Rate: | Much slower than 1 (n-butyl acetate = 1) |
| pH: | in concentrate: 7.45 ± .1 in working/use solution: 7.3 |
| Odor: | floral with slight alcoholic odor |

## ■ SECTION 04 PHYSICAL HAZARD DATA

| | |
|---|---|
| Flash Point: | Does not support combustion (ASTM D 4206) |
| Flammable Limits: | Not determined. |
| Fire Fighting Media: | Water spray, $CO_2$, dry chemical. Treat primary cause of fire. |
| Special Fire Fighting Procedures: | None. |
| Fire/Explosion Hazards: | Contains small quantities of flammable liquid, however, small bag size limits any hazard exposure. |

## ■ SECTION 05 REACTIVITY DATA

| | |
|---|---|
| Stability: | Stable. |
| Hazardous Polymerization: | Will not occur. |
| Conditions to Avoid: | None known. |
| Incompatible Materials: | Strong oxidizing or reducing agents. |
| Hazardous Decomposition Products: | CO and $CO_2$ on thermal decomposition. |

## ■ SECTION 06 HEALTH HAZARD DATA

| | |
|---|---|
| Oral Toxicity: | Not determined for formulation. |
| Skin Toxicity: | None known. |
| Carcinogenicity: | None of the individual materials in this formulation are listed as carcinogens in NTP, IARC, Monographs, or are OSHA Regulated carcinogens. |

## ■ SECTION 07 SYMPTOMS OF OVEREXPOSURE

| | |
|---|---|
| Symptoms of Ingestion: | Ingestion of concentrate may cause nausea, vomiting and abdominal pain. |
| Symptoms of Inhalation: | If misted in concentrated form, can cause irritation of respiratory tract. |
| Symptoms of Skin Contact: | Prolonged and repeated contact with concentrate can cause dryness, irritation and skin defatting. Considered a mild irritant. |
| Symptoms of Eye Contact: | Concentrate will cause stinging or burning of eyes and lids, watering of eye. |

## ■ SECTION 08 EMERGENCY FIRST AID PROCEDURES

| | |
|---|---|
| For Ingestion: | DO NOT induce vomiting. Have the individual drink one or more full glasses of milk or water. If vomiting occurs, give fluids again. NEVER give anything to an unconscious person. Call a physician or your local Poison Control Center. Treatment should be directed at the control of symptoms and the clinical condition of the patient. There is no specific antidote. |
| For Skin: | As for all foreign materials, wash off concentrate or diluted use solution with copious amounts of water. Remove clothing that has been saturated by concentrate. Thoroughly wash affected clothing and shoes. |
| For Eyes: | PROMPTLY flush with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper lids. See a physician if irritation persists. |
| Medical Conditions Aggravated by Exposure: | No data found. |

## ■ SECTION 09 OCCUPATIONAL CONTROL PROCEDURES

| | |
|---|---|
| Ventilation: | Use with adequate ventilation. Working solution should not present any general hazard. |
| Respiratory Protection: | Not required under normal working/use conditions. |
| Eye Protection: | Not normally required. Use if in specific applications splashes or mists will get into eyes. |
| Skin Protection: | Use gloves if hands will be continuously in solution. Not normally necessary in general use. |
| Personal Hygiene: | As in handling any detergent, wash thoroughly after using. |

## ■ SECTION 10 PRECAUTIONS FOR SAFE HANDLING STORAGE AND USE

| | |
|---|---|
| Precautionary Measures: | Avoid contact with eyes and prolonged contact of concentrate with skin. Do not store at elevated temperatures (above 140 deg. F). |
| Spills Clean-up Procedures: | Concentrated materials are packed in very small bags limiting any spills to small quantities. Paper toweling or mopping is usually sufficient. |
| Disposal Method: | Normal waste disposal of empty bags in accordance with state and local regulations or recycle after rinsing package. |

## ■ HAZARD RATINGS

| | NFPA Concentrate | NFPA Dilution |
|---|---|---|
| Health | 1 | 0 |
| Flammability | 1 | 0 |
| Reactivity | 0 | 0 |

## ■ GENERAL NOTE ABOUT PRODUCTS

CorrectPac® Glass Cleaner detergent formulation is not substantially different from any other commercially available glass cleaner or for that matter any household glass cleaner available in grocery stores. The unique packaging of these materials in unit dosed bags limits the amount of exposure of the concentrate to very small amounts. Spills can be cleaned up with paper toweling or plain mopping. We know of no hazards associated with the proper use and handling of this product.
PortionPac Chemical Corporation makes no warranty, expressed or implied, as to the accuracy, completeness or reliability of this information, except that such information is, to the best of our knowledge and belief, accurate as of the date indicated.

**PELIGRO: SI NO PUEDE LEER EN INGLES, PREGUNTE A SU SUPERVISOR SOBRE LAS INSTRUCCIONES DE USO APROPIADAS ANTES DE TRABAJAR CON ESTE PRODUCTO.**

**24 HOUR EMERGENCY RESPONSE PHONE: 1-800-535-5053**
**MSDS: 1400 REVIEWED: 04/10**

# SAFETY DATA SHEET

Confirms to OSHA Hazard Communication Standard (CFR 29 1910.1200) HazCom 2012

**Product:** Spray Gel- 2081, 2096 **Revision Date:** 19-May-2014

## SECTION 1 – IDENTIFICATION

**Product Identifier**

**Product Name:** **Spray Gel**

**Product Code:** **2081, 2096**

**Recommended Use of the Chemical and Restrictions for Use**

**Recommended Use:** Cleaner

**Restrictions for Use:** Use only as directed.

**Details of the Supplier**

**Manufacturer:** Goo Gone
755 Tri-State Parkway
Gurnee, IL 60031
855-364-8135

**Emergency Phone Number**

**24-Hour Number:** 1-800-535-5053

**International:** 1-352-323-3500

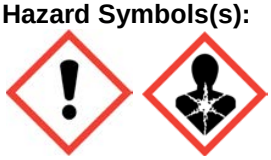
## SECTION 2 – HAZARDS IDENTIFICATION

**Classification**

| Hazard Class | Category |
|---|---|
| Flammable Liquid | 4 |
| Skin Sensitization | 1 |
| Aspiration Hazard | 1 |

**Label Elements**

**Hazard Symbols(s):**



**Signal Word(s):** Danger

**Hazard Statement(s):** Combustible liquid. May cause an allergic skin reaction. May be fatal if swallowed and enters airways.

**Precautionary Statement(s):** Keep away from flames and hot surfaces. No smoking. Avoid breathing fume/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/eye protection/face protection. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other Hazards**

2% of the mixture consists of ingredient(s) of unknown acute toxicity.

## SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS Number | Wt % |
|---|---|---|
| Petroleum distillates, hydrotreated light | 64742-47-8 | 60-100 |
| D-Limonene | 5989-27-5 | 1-5 |
| Orange, sweet, extract | 8028-48-6 | 0.5-5 |

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

# SAFETY DATA SHEET

Confirms to OSHA Hazard Communication Standard (CFR 29 1910.1200) HazCom 2012

**Product:** Spray Gel- 2081, 2096 **Revision Date:** 19-May-2014

## SECTION 4 – FIRST AID MEASURES

**First Aid Measures**

**Inhalation:** If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

**Eye Contact:** In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, seek medical attention immediately.

**Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

**Skin:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash with soap and water. If irritation persists, seek medical attention.

**Most Important Symptoms and Effects (Acute and Delayed)**

**Inhalation:** May cause respiratory track irritation.

**Eye Contact:** May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

**Ingestion:** May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

**Skin:** May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause sensitization by skin contact.

**Indication of any Immediate Medical Attention and Special Treatment Needed**

**Note to Physician:** Treat symptomatically.

## SECTION 5 – FIRE FIGHTING MEASURES

**Extinguishing Media**

**Suitable:** Treat for surrounding material.

**Unsuitable:** None known.

**Specific Hazards Arising from Chemical**

Products of combustion include but are not limited to: oxides of carbon. Combustible liquid.

**Protective Equipment and Precautions for Firefighters**

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures**

**Personal Precautions:** Use personal protective equipment as required.

**Environmental Precautions:** See Section 12 for ecological information.

**Methods and Material for Containment and Cleaning Up**

Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). For cleaning up scoop up material and place in a disposal container. Provide ventilation.

## SECTION 7 – HANDLING AND STORAGE

**Precautions for Safe Handling**

**Handling:** Keep away from sources of ignition. - No smoking. Avoid contact with skin and eyes. Avoid breathing in vapor or mist. Do not swallow. Handle and open container with care. Wash hands after use. Do not eat, drink, or smoke when using this product.

**General Hygiene Advice:** Launder contaminated clothing before use. Wash hands before eating, drinking, or smoking.

# SAFETY DATA SHEET

Confirms to OSHA Hazard Communication Standard (CFR 29 1910.1200) HazCom 2012

**Product:** Spray Gel- 2081, 2096 **Revision Date:** 19-May-2014

**Conditions for Safe Storage, Including any Incompatibilities**

**Storage Conditions:** Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Keep cool.

**Incompatible Materials:** Oxidizers

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

**Exposure Guidelines:**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Petroleum distillates, hydrotreated light (64742-47-8) | 200 mg/m$^3$ | 100 ppm | Not available |
| D-Limonene (5989-27-5) | Not available | Not available | Not available |
| Orange, sweet, extract (8028-48-6) | Not available | Not available | Not available |

**Appropriate Engineering Controls**

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

**Individual Protection Measures**

**Respiratory Protection:** None required for normal use. In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Skin and Body Protection:** Wear suitable protective clothing.

**Eye/Face Protection:** Safety glasses or goggles are recommended when using product.

**General Work/Hygienic Practices:** Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Orange gel

**Odor:** Citrus

**Odor threshold:** Not determined

**pH:** Not determined

**Melting point/freezing point:** Not determined

**Initial boiling point and boiling range:** Not determined

**Flash point:** 85°C (185°F) TCC

**Evaporation rate:** Not determined

**Flammability (solid, gas):** Flammable

**Upper/lower flammability or explosive limits:** Not determined

**Vapor pressure:** Not determined

**Vapor density:** Not determined

**Relative density:** 0.81

**Solubility(ies):** Not determined

**Partition coefficient (n-octanol/water):** Not determined

**Auto-ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Viscosity:** 10-50 cP @ 20°C (68°F)

## SECTION 10 – STABILITY AND REACTIVITY

**Reactivity:** Not reactive under normal conditions.

# SAFETY DATA SHEET

Confirms to OSHA Hazard Communication Standard (CFR 29 1910.1200) HazCom 2012

**Product:** Spray Gel- 2081, 2096 **Revision Date:** 19-May-2014

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions:** None under normal use.

**Conditions to avoid:** Heat. Incompatible materials. Sources of ignition.

**Incompatible materials:** Oxidizers

**Hazardous decomposition products:** May include and are not limited to: oxides of carbon.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Information on Toxicological Effects**

**Likely Routes of Exposure:** Inhalation, skin contact, eye contact, ingestion

**Information Related to Physical, Chemical, and Toxicological Effects**

See section 4 of this SDS.

**Delayed and Immediate Effects as well as Chronic Effects from Short and Long-term Exposure**

**Carcinogenicity:** **NTP:** No **IARC:** No **OSHA:** No

**Numerical Measures of Toxicity**

| **Product** | |
|---|---|
| ATE (oral) | >2000 mg/kg, rat |
| ATE (dermal) | >2000 mg/kg, rabbit |
| ATE (inhalation) | Not available |

**Component Information:**

| **Chemical Name** | **Oral LD50** | **Dermal LD50** | **Inhalation LC50** |
|---|---|---|---|
| Petroleum distillates, hydrotreated light (64742-47-8) | >5000 mg/kg, rat | >2000 mg/kg, rabbit | >5.2 mg/l/4h, rat |
| D-Limonene (5989-27-5) | 4400 mg/kg, rat | >5000 mg/kg, rabbit | Not available |
| Orange, sweet, extract (8028-48-6) | >5000 mg/kg, rat | >5000 mg/kg, rabbit | Not available |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** Not established

**Persistence and degradability:** Not established

**Bioaccumulative potential:** Not established

**Mobility in soil:** No additional information available

**Other adverse effects:** No additional information available.

## SECTION 13 – DISPOSAL CONSIDERATIONS

See section 8 of this SDS for exposure controls and personal protection.

Dispose of the product and container in accordance with all applicable local, state, and federal regulations.

## SECTION 14 – TRANSPORT INFORMATION

**Note:** Classification changes based on quantity, packaging, and method of shipment. See current shipping paper for most up to date shipping information.

**DOT (Ground):** Not Regulated- See 49 CFR 173.150(f)(2) as the product is not bulk packaged.

**IATA (Air):** Not Regulated

**IMDG (Vessel):** Not Regulated

## SECTION 15 – REGULATORY INFORMATION

All ingredients in this product are listed or are excluded from listing on the US Toxic Substances Act (TSCA) Chemical Substance Inventory.

# SAFETY DATA SHEET

Confirms to OSHA Hazard Communication Standard (CFR 29 1910.1200) HazCom 2012

**Product:** Spray Gel- 2081, 2096 **Revision Date:** 19-May-2014

## SECTION 16 – OTHER INFORMATION

**Issue Date:** 19-May-2014

**Revision Date:** 19-May-2014

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designed and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**

CIBA-GEIGY CORP -- HARDENER HY 840 -- 8010-00N063143

========== Product Identification ==========

Product ID:HARDENER HY 840
MSDS Date:03/27/1990
FSC:8010
NIIN:00N063143
MSDS Number: BYWNH
=== Responsible Party ===
Company Name:CIBA-GEIGY CORP
Address:SEVEN SKYLINE DRIVE
City:HAWTHORNE
State:NY
ZIP:10532
Country:US
Info Phone Num:914-785-3327
Emergency Phone Num:800-888-8372
CAGE:07566
=== Contractor Identification ===
Company Name:CIBA-GEIGY CORP ADDITIVES DIV.
Address:SEVEN SKYLINE DRIVE
Box:City:HAWTHORNE
State:NY
ZIP:10532-2119
Country:US
Phone:800-888-8372
CAGE:07566

========== Composition/Information on Ingredients ==========

Ingred Name:POLYAMIDE RESIN; (POLYETHYLENE POLYAMINES)
CAS:68410-23-1
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:LD50(ORAL,RAT):>5,000 MG/KG
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:OVEREXPOSURE EFFECTS:SEVERE
IRRITATION, DERMATITIS, POSSIBLE SENSITIZATION. SKIN:(RABBITS)
MODERATE IRRITATION. EYES:(RABBITS) SEVERE IRRITATION.
SENSITIZATION:POTENTIAL SENSITIZER.
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:SEE HEALTH HAZARDS.
Medical Cond Aggravated by Exposure:ALLERGY, ECZEMA OR SKIN CONDITIONS.

========== First Aid Measures ==========

First Aid:EYES:IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES.
CALL A PHYSICIAN. SKIN:PROMPTLY WASH THOROUGHLY WITH MILD SOAP AND
WATER. PROMPTLY REMOVE WET CONTAMINATED NON-IMPERVIOUS CLOTHING.
WASH BEFO RE REUSE. INGESTION:GET IMMEDIATE MEDICAL ATTENTION. DO
NOT INDUCE VOMITING. IF CONSCIOUS, GIVE PLENTY OF WATER TO DILUTE.
INHALATION:REMOVE TO FRESH AIR. GIVE OXYGEN IF BREATHING IS
DIFFICULT.

========== Fire Fighting Measures ==========

Flash Point Method:CC
Flash Point:>200F,>93C
Extinguishing Media:CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPROVED SCBA & FULL
PROTECTIVE EQUIPMENT .
Unusual Fire/Explosion Hazard:DECOMPOSITION AND COMBUSTION PRODUCTS MAY
BE TOXIC.

========== Accidental Release Measures ==========

Spill Release Procedures:AVOID ALL PERSONAL CONTACT. TAKE UP WITH
ABSORBENT MATERIAL. SHOVEL INTO CLOSABLE CONTAINERS. FLUSH
CONTAMINATED AREA WITH WATER.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:WARNING! CAUSES SEVERE EYE IRRITATION.
CAUSES SKIN IRRITATION. MAY CAUSE SENSITIZATION. AVOID CONTACT WITH
EYES, SKIN AND CLOTHING.
Other Precautions:AVOID BREATHING MIST OR VAPOR. DO NOT TAKE
INTERNALLY. USE WITH ADEQUATE VENTILATION. WEAR CHEMICAL SPLASH
GOGGLES, IMPERVIOUS GLOVES AND PROTECTIVE CLOTHING WHEN HANDLING.
KEEP CONTAINER CLOSED WHEN NOT IN USE. FOR MANUFACTURING USE ONLY.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:NIOSH/MSHA APPROVED ORGANIC CHEMICAL CARTRIDGE
RESPIRATOR IF NEEDED.
Ventilation:GOOD GENERAL MECHANICAL VENTILATION RECOMMENDED.
Protective Gloves:IMPERVIOUS GLOVES.
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
Other Protective Equipment:WEAR APPROPRIATE EQUIPMENT TO PREVENT
PROBABILITY OF EXPOSURE AND PERSONAL CONTACT.
Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING.
Supplemental Safety and Health
SPEC GRAV:0.98 (H*2O=1) @ 25C.

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:>392F,>200C
Vapor Pres:<15 @ 20C
Spec Gravity:SUPP DATA
pH:CA.11
Solubility in Water:VERY SLIGHT
Appearance and Odor:VISCOUS AMBER LIQUID WITH AMINE ODOR.
Percent Volatiles by Volume:NIL

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS, ACIDS, NATURAL RUBBER.
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:CARBON MONOXIDE, CARBON DIOXIDE,
ALDEHYDES, NITROGEN OXIDES AND COMPOUNDS.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND
LOCAL REGULATIONS.

# Material Safety Data Sheet
# High Density Polyethylene

Safripol (Pty) Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

**Product Name**
High Density Polyethylene (HDPE) – carbon black filled

**Use of the substance/preparation**
A polyethylene plastic - for industrial conversion as a raw material for the manufacture of articles or goods.

**Company Identification**
Safripol (Pty) Ltd
Eugene Houndry Street, Sasolburg
Private Bag X 52
Bryanston, 2021
Gauteng, South Africa

**Customer Information Number:** +27 (0)11 575 4549

**24-Hour Emergency Contact:** +27 (0)16 970 4000

## 2. Composition/Information on Ingredients

| Component | Amount | Classification: | CAS # | EC # |
|---|---|---|---|---|
| Ethylene, polymer with 1-butene | ≥ 96.0 % | Not classified | 25087-34-7 | Polymer |
| Carbon black | 2.25% | Not classified | 1333-86-4 | 215-609-9 |
| Additives | ≤ 1.0% | Not classified | N/A | N/A |

## 3. Hazards Identification

This product is not classified as dangerous according to EC criteria.

## 4. First-aid Measures

**Eye Contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
**Skin Contact:** If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately.
**Inhalation:** Move person to fresh air; if effects occur, consult a physician.
**Ingestion:** If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

**Notes to Physician:** If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## 5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.
**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.
**Special Protective Equipment for Fire-fighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.
**Unusual Fire and Explosion Hazards:** Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is emitted when burned without sufficient oxygen.
**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Contain spilled material if possible. Sweep up. Collect in suitable and properly labelled containers. See Section 13, Disposal Considerations, for additional information.
**Personal Precautions:** Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and Storage

### Handling
**General Handling:** No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

### Storage
Store in accordance with good manufacturing practices.

## 8. Exposure Controls / Personal Protection

### Exposure Limits
None established

### Personal Protection
**Eye/Face Protection:** Use safety glasses. Safety glasses should be consistent with Directive 89/686/EEC Category 2. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.
**Skin Protection:** No precautions other than clean body-covering clothing should be needed.

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection, when needed.

**Respiratory Protection:** Use an approved air-purifying respirator when vapours are generated at increased temperatures or when dust or mist is present. Use the following CE approved air-purifying respirator: When dust/mist are present use a/an Particulate filter, type P2. When combinations of vapours, acids, or dusts/mists are present use a/an Organic vapour cartridge with a particulate pre-filter, type AP2.
**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls
**Ventilation:** Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

## 9. Physical and Chemical Properties

| | |
|---|---|
| **Physical State** | Pellets or granules |
| **Colour** | Black |
| **Odour** | Odourless |
| **Flash Point - Closed Cup** | Not applicable |
| **Flammable Limits In Air** | **Lower**: Not applicable<br>**Upper**: Not applicable |
| **Autoignition Temperature** | No test data available |
| **Vapour Pressure** | Not applicable |
| **Boiling Point (760 mmHg)** | Not applicable |
| **Vapour Density (air = 1)** | Not applicable |
| **Specific Gravity ($H_2O$ = 1)** | 0.83 - 0.97 *Literature* |
| **Freezing Point** | Not applicable |
| **Melting Point** | 130 – 135°C *Literature* |
| **Solubility in Water (by weight)** | Negligible |
| **pH** | Not applicable |
| **Kinematic Viscosity** | Not applicable |

## 10. Stability and Reactivity

### Stability/Instability
Stable.
**Conditions to Avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible Materials:** None known.

### Hazardous Polymerization
Will not occur.

### Thermal Decomposition
Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Organic acids. Decomposition products can include trace amounts of: Hydrocarbons.

## 11. Toxicological Information

### Acute Toxicity
**Ingestion**
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.
Estimated LD50, Rat > 5,000 mg/kg
**Eye Contact**
Solid or dust may cause irritation or corneal injury due to mechanical action. Vapour may cause eye irritation experienced as mild discomfort and redness.
**Skin Contact**
Prolonged contact is essentially non-irritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.
**Skin Absorption**
No adverse effects anticipated by skin absorption.
Estimated LD50, Rabbit > 2,000 mg/kg
**Inhalation**
No adverse effects are anticipated from single exposure to dust. Vapours/fumes released during thermal processing may cause respiratory irritation.
### Repeated Dose Toxicity
Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

## 12. Ecological Information

### Chemical fate
**Movement & Partitioning**
No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000). In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material is expected to float.

**Persistence and Degradability**
This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

**Ecotoxicity**
Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

## 13. Disposal Considerations

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposal methods must be in compliance with the EU framework Directives 91/156/EEC, 91/689/EEC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams. Transboundary shipment of wastes must be in compliance with EU Regulation 259/93 and subsequent modifications.

## 14. Transport Information

**Road & Rail**
NOT REGULATED

**Ocean**
NOT REGULATED

**Air**
NOT REGULATED

**Inland Waterways**
NOT REGULATED

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

## 15. Regulatory Information

**European Inventory of Existing Commercial Chemical Substances (EINECS)**
This product is a polymer according to the definition in Directive 92/32/EEC (7th Amendment to Directive 67/548/EEC) and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

**Classification and User Label Information**
This product is not classified as dangerous according to EC criteria.

## 16. Other Information

**Revision**
Identification Number: MSDS-HDPE-B-5002
Issue Date: **01/09/2007**
Version: 1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

| | |
|---|---|
| N/A | Not available |
| W/W | Weight/Weight |
| OEL | Occupational Exposure Limit |
| STEL | Short Term Exposure Limit |
| TWA | Time Weighted Average |
| ACGIH | American Conference of Governmental Industrial Hygienists, Inc. |
| IHG | Industrial Hygiene Guideline |
| WEEL | Workplace Environmental Exposure Level |
| HAZ_DES | Hazard Designation |

*Safripol (Pty) Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*

SAFETY DATA SHEET

# Signet Heavy Duty Floor Cleaner/Degreaser

**Version Number:** 3 **Preparation date:** 2015-08-26

## 1. IDENTIFICATION

**Product name:** Signet Heavy Duty Floor Cleaner/Degreaser
**Product Code:** 95517949
**SDS #:** MS0800185
**Recommended use:**
- Industrial/Institutional
- Cleaning product
- This product is intended to be diluted prior to use

**Uses advised against:** Uses other than those identified are not recommended

**Manufacturer, importer, supplier:**
US Headquarters
Diversey, Inc.
8310 16th St.
Sturtevant, Wisconsin 53177-1964
Phone: 1-888-352-2249
MSDS Internet Address: www.diversey.com

Canadian Headquarters
Diversey, Inc. - Canada
3755 Laird Road
Mississauga, Ontario L5L 0B3
Phone: 1-800-668-7171

**Emergency telephone number:** 1-800-851-7145 (U.S.); 1-651-917-6133 (Int'l)

## 2. HAZARDS IDENTIFICATION

**Classification for the undiluted product**

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |

**Signal Word:** **Danger.**

**Precautionary Statements**

**CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE DAMAGE.**
Avoid contact with eyes, skin and clothing. Causes burns/ serious damage to mouth, throat and stomach. Keep container tightly closed. Wash affected areas thoroughly after handling. Wear chemical-splash goggles and chemical-resistant gloves. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting unless directed to do so by medical personnel. Drink a cupful of milk or water. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Center (1-800-851-7145) or physician. Take off contaminated clothing and wash it before reuse. Dispose of in accordance with all federal, state and local applicable regulations.

**Health hazards not otherwise classified (HHNOC)** - Not applicable
**Physical hazards not otherwise classified (PHNOC)** - Not applicable

**Classification for the diluted product** @ 1:64

This product, when diluted as stated on the label, is not classified as hazardous according to OSHA 29CFR 1910.1200 (HazCom 2012-GHS) and Canadian Hazardous Products Regulations (HPR) (WHMIS 2015-GHS).

**Precautionary Statements**

None required.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Classified Ingredients

| Ingredient(s) | CAS # | Weight % |
|---|---|---|
| Alcohol ethoxylates | 68439-46-3 | 1% - < 3% |
| Tetrasodium salt of EDTA | 64-02-8 | 1% - < 3% |
| Sodium xylene sulfonate | 1300-72-7 | 1% - < 3% |
| Sodium silicate | 1344-09-8 | 1% - < 3% |
| Sodium hydroxide | 1310-73-2 | > 0.1% - < 1% |

*Exact percentages are being withheld as trade secret information

## 4. FIRST AID MEASURES

### Undiluted Product:

**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes.
**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
**Inhalation:** IF INHALED: Remove person to fresh air and keep comfortable for breathing.
**Ingestion:** IF SWALLOWED: Rinse mouth. DO NOT induce vomiting unless directed to do so by medical personnel. Drink a cupful of milk or water.

**Most Important Symptoms/Effects:** No information available.
**Immediate medical attention and special treatment needed** Not applicable.
**Aggravated Medical Conditions:** Persons with pre-existing skin disorders may be more susceptible to irritating effects.

### Diluted Product:

**Eyes:** Rinse with plenty of water If irritation occurs and persists, get medical attention.
**Skin:** Rinse with plenty of water If irritation occurs and persists, get medical attention.
**Inhalation:** No specific first aid measures are required
**Ingestion:** Rinse mouth with water.

## 5. FIRE-FIGHTING MEASURES

**Specific methods:** No special methods required
**Suitable extinguishing media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
**Specific hazards:** Not applicable.

**Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
**Extinguishing media which must not be used for safety reasons:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Put on appropriate personal protective equipment (see Section 8.).
**Environmental precautions and clean-up methods:** Clean-up methods - large spillage. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Use a water rinse for final clean-up.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

**Storage:** Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.
**Aerosol Level (if applicable) :** Not applicable

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:** .

| Ingredient(s) | CAS # | ACGIH | OSHA |
|---|---|---|---|
| Alcohol ethoxylates | 68439-46-3 | - | - |
| Tetrasodium salt of EDTA | 64-02-8 | - | - |
| Sodium xylene sulfonate | 1300-72-7 | - | - |
| Sodium silicate | 1344-09-8 | - | - |
| Sodium hydroxide | 1310-73-2 | 2 mg/m³ (Ceiling) | 2 mg/m³ (TWA) |

### Undiluted Product:

**Engineering measures to reduce exposure:**
No special ventilation requirements General room ventilation is adequate

**Personal Protective Equipment**

**Eye protection:** Chemical-splash goggles.
**Hand protection:** Chemical-resistant gloves.
**Skin and body protection:** No special requirements under normal use conditions.
**Respiratory protection:** No special requirements under normal use conditions.
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

### Diluted Product:

**Personal Protective Equipment**

**Eye protection:** No personal protective equipment required under normal use conditions.
**Hand protection:** No personal protective equipment required under normal use conditions.
**Skin and body protection:** No personal protective equipment required under normal use conditions.
**Respiratory protection:** No personal protective equipment required under normal use conditions.
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Evaporation Rate:** No information available
**Odor threshold:** No information available.
**Melting point/range:** Not determined
**Autoignition temperature:** No information available
**Solubility in other solvents:** No information available
**Density:** 8.62 1.033
**Bulk density:** No information available
**Flash point:** > 200 °F > 93.3 °C
**Dilution Flash Point:** > 200 °F > 93.3 °C
**Elemental Phosphorus:** 0 % by wt.
**pH:** 12.9
**Dilution pH:** 10.5 @ 1:64
**Metal Corrosion:** Not determined
**Explosion limits: - upper:** Not determined **- lower:** Not determined

**Color:** Clear, Green
**Odor:** Citrus Fruity
**Boiling point/range:** Not determined
**Decomposition temperature:** Not determined
**Solubility:** Completely Soluble
**Relative Density (relative to water):** 1.033
**Vapor density:** No information available
**Vapor pressure:** No information available.
**Partition coefficient (n-octanol/water):** No information available
**Viscosity:** No information available
**VOC:** 0.18 % *
**VOC % by wt. at use dilution** 0 % *
**Flammability (Solid or Gas):** Not applicable

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not Applicable
**Stability:** The product is stable
**Hazardous decomposition products:** None reasonably foreseeable.
**Materials to avoid:** Acids.
**Conditions to avoid:** No information available.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure**
**Skin contact:** Causes skin irritation. Symptoms may include pain (which may be delayed), redness, and/or discomfort.
**Eye contact:** Corrosive. Causes serious eye damage. Symptoms may include pain, burning sensation, redness, watering, blurred vision or loss of vision.
**Ingestion:** Causes burns/ serious damage to mouth, throat and stomach. Symptoms may include stomach pain and nausea.
**Inhalation:** May cause irritation and corrosive effects to nose, throat and respiratory tract. Symptoms may include coughing and difficulty breathing.
**Sensitization:** No known effects.
**Target Organs (SE):** None known
**Target Organs (RE):** None known

**Numerical measures of toxicity**

| | |
|---|---|
| **ATE - Oral (mg/kg):** | >5000 |
| **ATE - Inhalatory, mists (mg/l):** | >20 |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available.

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:** This product, as sold, if discarded or disposed, is a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Dispose in compliance with all Federal, state, provincial, and local laws and regulations. This product, when diluted as stated on this SDS, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations.
**Contaminated Packaging:** Do not re-use empty containers.
**RCRA Hazard Class (undiluted product):** D002 Corrosive Waste
RCRA Hazard Class (diluted product): Not Regulated

## 14. TRANSPORT INFORMATION

**DOT/TDG/IMDG:** Proper shipping descriptions can vary by pack size. Please refer to the Diversey HazMat Library, **only available through Internet Explorer**, http://naextranet.diversey.com/dot/, for up to date shipping information.

**DOT (Ground) Bill of Lading Description:** CLEANING, WASHING, BUFFING, OR POLISHING COMPOUNDS LIQUID

**IMDG (Ocean) Bill of Lading Description:** CLEANING, WASHING, BUFFING, OR POLISHING COMPOUNDS LIQUID

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations**

**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK)**

| Ingredient(s) | CAS # | MARTK: | NJRTK: | PARTK: | RIRTK: |
|---|---|---|---|---|---|
| Water | 7732-18-5 | - | - | - | - |
| Alcohol ethoxylates | 68439-46-3 | - | - | - | - |
| Tetrasodium salt of EDTA | 64-02-8 | - | - | - | - |
| Sodium xylene sulfonate | 1300-72-7 | - | - | - | - |
| Sodium silicate | 1344-09-8 | - | - | - | - |

**CERCLA/ SARA**

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations**

## 16. OTHER INFORMATION

**NFPA (National Fire Protection Association)**
Rating Scale: (Low Hazard) 0 - 4 (Extreme Hazard)

**Health** 3
**Flammability** 0
**Instability** 0

**Version Number:** 3
**Preparation date:** 2015-08-26

| | |
|---|---|
| **Reason for revision:** | Not applicable |
| **Prepared by:** | NAPRAC |
| **Additional advice:** | • Contains an added fragrance, see "Odor" heading in section 9 for specific description |

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MATERIAL SAFETY DATA SHEET

# Signet Heavy Duty Non-Acid Washroom Cleaner/Disinfectant (US)

| HMIS | | NFPA | Personal protective equipment |
|---|---|---|---|
| Health | 3 | 3 |  |
| Flammability | 0 | 0 | |
| Physical Hazard / Instability | 0 | 0 | |

Version Number: 0

Preparation date: 2011-05-13

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Signet Heavy Duty Non-Acid Washroom Cleaner/Disinfectant (US)

**MSDS #:** MS0600692
**Product Code:** 5519071
**Recommended use:**
- Neutral Disinfectant Cleaner
- This product is intended to be diluted prior to use

**Manufacturer, importer, supplier:**
US Headquarters
Diversey, Inc.
8310 16th St.
Sturtevant, Wisconsin 53177-1964
Phone: 1-888-352-2249
MSDS Internet Address: www.diversey.com

**Emergency telephone number:** 1-800-983-4582

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**
DANGER. CORROSIVE. CAUSES SKIN AND EYE BURNS. HARMFUL OR FATAL IF SWALLOWED.

**Principal routes of exposure:** Eye contact. Skin contact. Inhalation.
**Eye contact:** Corrosive. Causes permanent eye damage, including blindness.
**Skin contact:** Corrosive. Causes permanent damage.
**Inhalation:** May cause irritation and corrosive effects to nose, throat and respiratory tract.
**Ingestion:** Corrosive. Causes burns to mouth, throat and stomach.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredient(s) | CAS # | Weight % | LD50 Oral - Rat (mg/kg) | LD50 Dermal - Rabbit | LC50 Inhalation - Rat |
|---|---|---|---|---|---|
| Ethyl alcohol | 64-17-5 | 0.1 - 1.5% | 7060 | Not available | 124.7 mg/L (4 h) |
| N-alkyl Dimethyl Benzyl Ammonium Chloride | 68424-85-1 | 1 - 5% | 426 | Not available | Not available |

## 4. FIRST AID MEASURES

**Eye contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes . Call a poison control center or doctor for treatment advice.

**Inhalation:** Immediately move the victim to fresh air . If person is not breathing, call 911 or an ambulance and then give artificial respiration, preferably by mouth to mouth, if possible. Call a poison control center or doctor for treatment advice.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

**Aggravated Medical Conditions:** Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc., may be more susceptible to irritating effects

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.
**Specific hazards:** Not applicable
**Unusual hazards:** Corrosive material (See sections 8 and 10).
**Specific methods:** No special methods required

**Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
**Extinguishing media which must not be used for safety reasons:** No information available

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment
**Environmental precautions and clean-up methods:** Clean-up methods - large spillage. Material is toxic to fish. Do not discharge into lakes, streams, ponds, or public water unless in accordance with an NPDES permit. Prevent product from entering drains. Water runoff can cause environmental damage. Use appropriate containment to avoid environmental contamination. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Use a water rinse for final clean-up.

## 7. HANDLING AND STORAGE

**Handling:**
Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing and footwear before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.
**Storage:**
Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures to reduce exposure:**
Good general ventilation should be sufficient to control airborne levels Respiratory protection is not required if good ventilation is maintained.

**Personal Protective Equipment**

**Eye protection:** Chemical-splash goggles.
**Hand protection:** Chemical-resistant gloves
**Skin and body protection:** Protective footwear. If major exposure is possible, wear suitable protective clothing and footwear.
**Respiratory protection:** In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice

| Ingredient(s) | CAS # | ACGIH | OSHA | Mexico |
|---|---|---|---|---|
| Ethyl alcohol | 64-17-5 | 1000 ppm (STEL) | 1000 ppm (TWA) 1900 mg/m³ (TWA) | 1000 ppm (TWA) 1900 mg/m³ (TWA) |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Appearance:** Liquid
**Specific gravity:** 1.077
**Vapor density:** No information available
**Boiling point/range:** Not determined
**Decomposition temperature:** Not determined
**Solubility:** Completely Soluble
**Solubility in other solvents:** No information available
**Partition coefficient (n-octanol/water):** No information available
**Elemental Phosphorus:** 0.004 % by wt.
**pH:** 13.1

**Bulk density:** No information available
**Evaporation Rate** No information available
**Color:** Clear Green
**Odor:** Minty
**Melting point/range:** Not determined
**Autoignition temperature:** No information available
**Density:** 9.01 lbs/gal 1.08 Kg/L
**Flash point:** > 200 °F > 93.4 °C
**Viscosity:**No information available
**VOC:** 0.9 % *
**Dilution pH:** 11 @ 1:256

**Explosion limits: - upper:** Not determined **- lower:** Not determined

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

## 10. STABILITY AND REACTIVITY

**Stability:** The product is stable
**Polymerization:** Hazardous polymerization does not occur
**Hazardous decomposition products:** None reasonably foreseeable.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:** Corrosive. Oral LD50 estimated to be greater than 5000 mg/kg.
**Component Information:** See Section 3

**Chronic toxicity:** None known

**Specific effects**
**Carcinogenic effects:** None known
**Mutagenic effects:** None known
**Reproductive toxicity:** None known
**Target organ effects:** None known

| Ingredient(s) | CAS # | NTP | IARC | OSHA |
|---|---|---|---|---|
| Ethyl alcohol | 64-17-5 | | - | |

## 12. ECOLOGICAL INFORMATION

**Environmental Information:** No data available

## 13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food, or feed by storage or disposal

**Waste from residues / unused products:**
This product, as sold, if discarded or disposed, is a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Dispose in compliance with all Federal, state, provincial, and local laws and regulations.

**Pesticide Storage:**
Store this product in a cool, dry area, away from direct sunlight and heat to avoid deterioration.

**Pesticide Disposal:**
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal:**
Pesticide product disposal requirements vary by package size and type. Pesticides include disinfectants and sanitizers. See product label for complete disposal instructions. Always dispose of according to all federal, state and local applicable regulations.
**RCRA Hazard Class:** D002 Corrosive Waste.

## 14. TRANSPORT INFORMATION

**DOT/TDG/IMDG:** Please refer to the Diversey HazMat Library, http://naextranet.diversey.com/dot/, for up to date shipping information.

**DOT Bill of Lading Description:** LTD. QTY.

**IMDG Bill of Lading Description:** UN1903, DISINFECTANTS, LIQUID, CORROSIVE, N.O.S., (quaternary ammonium chloride) 8, III, LTD. QTY.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level**

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations**

**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65

**CERCLA/ SARA**

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Reason for revision:** | Not applicable |
| **Prepared by:** | NAPRAC |
| **Additional advice:** | • Contains an added fragrance, see "Odor" heading in section 9 for specific description |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 23-3000-9 | **Version Number:** | 4.00 |
| **Issue Date:** | 05/08/15 | **Supercedes Date:** | 05/14/13 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Hi-Strength 90 Cylinder Spray Adhesive, Clear

**Product Identification Numbers**
62-4994-8030-9, 62-4994-8150-5, 62-4994-8300-6

**1.2. Recommended use and restrictions on use**

**Recommended use**
Adhesive, Industrial use

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Liquid: Category 1.
Serious Eye Damage/Irritation: Category 2A.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Extremely flammable liquid and vapor.

Causes serious eye irritation.
May cause drowsiness or dizziness.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

**Precautionary Statements**

**Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**
None.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Dimethyl Ether | 115-10-6 | 15 - 40 Trade Secret * |
| Non-Volatile Components | Trade Secret* | 10 - 30 Trade Secret * |
| Pentane | 109-66-0 | 10 - 30 Trade Secret * |
| Cyclohexane | 110-82-7 | 10 - 30 Trade Secret * |
| Acetone | 67-64-1 | 10 - 30 Trade Secret * |
| Isobutane | 75-28-5 | 5 - 10 Trade Secret * |
| Propane | 74-98-6 | 5 - 10 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. Get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Aldehydes | During Combustion |
| Hydrocarbons | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial or professional use only. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Pentane | 109-66-0 | ACGIH | TWA:1000 ppm | |
| Pentane | 109-66-0 | OSHA | TWA:2950 mg/m3(1000 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |
| Dimethyl Ether | 115-10-6 | AIHA | TWA:1880 mg/m3(1000 ppm) | |
| Dimethyl Ether | 115-10-6 | CMRG | TWA:1000 ppm | |

| | | | | |
|---|---|---|---|---|
| Acetone | 67-64-1 | ACGIH | TWA:500 ppm;STEL:750 ppm | A4: Not class. as human carcin |
| Acetone | 67-64-1 | OSHA | TWA:2400 mg/m3(1000 ppm) | |
| Propane | 74-98-6 | ACGIH | Limit value not established: | |
| Propane | 74-98-6 | OSHA | TWA:1800 mg/m3(1000 ppm) | |
| Isobutane | 75-28-5 | ACGIH | STEL:1000 ppm | |
| Natural gas | 75-28-5 | ACGIH | Limit value not established: | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors
Half facepiece or full facepiece supplied-air respirator
Organic vapor respirators may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Odor, Color, Grade:** | clear, solvent odor |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |

| | |
|---|---|
| **Melting point** | *Not Applicable* |
| **Boiling Point** | <=68 ºF |
| **Flash Point** | -50 ºF [*Test Method:* Closed Cup] [*Details:* Flammable Gas] |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 1.2 % volume |
| **Flammable Limits(UEL)** | 27 % volume |
| **Vapor Pressure** | 84.7 psia [@ 68 ºF] |
| **Vapor Density** | >=1.0 [*Ref Std:* AIR=1] |
| **Density** | 0.69 g/ml |
| **Specific Gravity** | 0.69 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Nil |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *Not Applicable* |
| **Viscosity** | *Not Applicable* |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | <=592 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **Solids Content** | 10 - 30 % |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE > 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Dimethyl Ether | Inhalation-Gas (4 hours) | Rat | LC50 164,000 ppm |
| Acetone | Dermal | Rabbit | LD50 > 15,688 mg/kg |
| Acetone | Inhalation-Vapor (4 hours) | Rat | LC50 76 mg/l |
| Acetone | Ingestion | Rat | LD50 5,800 mg/kg |
| Pentane | Dermal | Rabbit | LD50 3,000 mg/kg |
| Pentane | Inhalation- | Rat | LC50 > 18 mg/l |

| | | | |
|---|---|---|---|
| | Vapor (4 hours) | | |
| Pentane | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Isobutane | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| Propane | Inhalation-Gas (4 hours) | Rat | LC50 > 200,000 ppm |
| Cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Cyclohexane | Inhalation-Vapor (4 hours) | Rat | LC50 > 32.9 mg/l |
| Cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| Non-Volatile Components | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Non-Volatile Components | Ingestion | Rat | LD50 > 5,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Acetone | Mouse | Minimal irritation |
| Pentane | Rabbit | Minimal irritation |
| Isobutane | Professional judgement | No significant irritation |
| Propane | Rabbit | Minimal irritation |
| Cyclohexane | Rabbit | Mild irritant |
| Non-Volatile Components | Professional judgement | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Acetone | Rabbit | Severe irritant |
| Pentane | Rabbit | Mild irritant |
| Isobutane | Professional judgement | No significant irritation |
| Propane | Rabbit | Mild irritant |
| Cyclohexane | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Pentane | Guinea pig | Not sensitizing |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Dimethyl Ether | In Vitro | Not mutagenic |
| Dimethyl Ether | In vivo | Not mutagenic |
| Acetone | In vivo | Not mutagenic |
| Acetone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Pentane | In vivo | Not mutagenic |
| Pentane | In Vitro | Some positive data exist, but the data are not sufficient for classification |

| | | |
|---|---|---|
| Isobutane | In Vitro | Not mutagenic |
| Propane | In Vitro | Not mutagenic |
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Dimethyl Ether | Inhalation | Rat | Not carcinogenic |
| Acetone | Not Specified | Multiple animal species | Not carcinogenic |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Dimethyl Ether | Inhalation | Not toxic to female reproduction | Rat | NOAEL 25,000 ppm | 2 years |
| Dimethyl Ether | Inhalation | Not toxic to male reproduction | Rat | NOAEL 25,000 ppm | 2 years |
| Dimethyl Ether | Inhalation | Not toxic to development | Rat | NOAEL 40,000 ppm | during organogenesis |
| Acetone | Ingestion | Not toxic to female reproduction | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| Acetone | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 5.2 mg/l | during organogenesis |
| Pentane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 20 mg/l | 13 weeks |
| Pentane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 20 mg/l | 13 weeks |
| Pentane | Ingestion | Not toxic to development | Rat | NOAEL 1,000 mg/kg/day | during organogenesis |
| Pentane | Inhalation | Not toxic to development | Rat | NOAEL 30 mg/l | during organogenesis |
| Cyclohexane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Dimethyl Ether | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Rat | LOAEL 10,000 ppm | 30 minutes |
| Dimethyl Ether | Inhalation | cardiac sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 100,000 ppm | 5 minutes |
| Acetone | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Acetone | Inhalation | respiratory irritation | Some positive data exist, but the | Human | NOAEL Not | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | data are not sufficient for classification | | available | |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Pentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL Not available | not available |
| Pentane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |
| Pentane | Inhalation | cardiac sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL Not available | not available |
| Isobutane | Inhalation | cardiac sensitization | Causes damage to organs | Multiple animal species | NOAEL Not available | |
| Isobutane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Isobutane | Inhalation | respiratory irritation | All data are negative | Mouse | NOAEL Not available | |
| Propane | Inhalation | cardiac sensitization | Causes damage to organs | Human | NOAEL Not available | |
| Propane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Propane | Inhalation | respiratory irritation | All data are negative | Human | NOAEL Not available | |
| Cyclohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Dimethyl Ether | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 25,000 ppm | 2 years |
| Dimethyl Ether | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 20,000 ppm | 30 weeks |
| Acetone | Dermal | eyes | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 3 mg/l | 6 weeks |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart \| liver | All data are negative | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Some positive data exist, but the data are not sufficient for | Rat | NOAEL 2,500 | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | classification | | mg/kg/day | |
| Acetone | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 3,896 mg/kg/day | 14 days |
| Acetone | Ingestion | eyes | All data are negative | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | All data are negative | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | All data are negative | Rat | NOAEL 2,500 mg/kg | 13 weeks |
| Acetone | Ingestion | skin \| bone, teeth, nails, and/or hair | All data are negative | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| Pentane | Inhalation | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Pentane | Inhalation | heart \| skin \| endocrine system \| bone, teeth, nails, and/or hair \| hematopoietic system \| liver \| immune system \| muscles \| nervous system \| eyes \| kidney and/or bladder \| respiratory system | All data are negative | Rat | NOAEL 20 mg/l | 13 weeks |
| Pentane | Ingestion | kidney and/or bladder | All data are negative | Rat | NOAEL 2,000 mg/kg/day | 28 days |
| Isobutane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 4,500 ppm | 13 weeks |
| Cyclohexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |
| Cyclohexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| Cyclohexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |

**Aspiration Hazard**

| Name | Value |
|---|---|
| Pentane | Aspiration hazard |
| Cyclohexane | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Cyclohexane | 110-82-7 | 10 - 30 |

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 23-3000-9 | **Version Number:** | 4.00 |
| **Issue Date:** | 05/08/15 | **Supercedes Date:** | 05/14/13 |

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# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identification**

| | |
|---|---|
| **Product ID:** | **5783R90015** |
| Product Name: | HI-HIDE RED TOOLING |
| Product Use: | Paint product. |
| Print date: | 25/Jun/2010 |
| Revision Date: | 25/Jun/2010 |

**Company Identification**
The Valspar Corporation
2350 114TH ST.
GRAND PRAIRIE, TX 75050

**Manufacturer's Phone:** 1-800-472-6243

**24-Hour Medical Emergency Phone:** 1-888-345-5732

## 2. HAZARDS IDENTIFICATION

**Primary Routes of Exposure:**
Inhalation
Ingestion
Skin absorption

**Eye Contact:**

- Moderate eye irritation
- Risk of serious damage to eyes.

**Skin Contact:**

- Causes skin irritation.
- Dermatitis
- Can be absorbed through skin.
- May cause sensitization by skin contact.

**Ingestion:**

- Irritation of the mouth, throat, and stomach.
- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

**Inhalation:**

- Causes respiratory tract irritation.
- Harmful by inhalation.
- May cause pulmonary edema.

**Target Organ and Other Health Effects:**
- Causes headache, drowsiness or other effects to the central nervous system.
- Liver injury may occur.
- Hearing loss.
- Kidney injury may occur.

**This product contains ingredients that may contribute to the following potential chronic health effects:**
- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- Possible sensitization.

**Teratogens:**
- Contains material that may cause adverse reproductive effects.

**Carcinogens:**
- Possible cancer hazard. Contains material which may cause cancer based on animal data.

## 3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

| Ingredient Name<br>CAS-No. | Approx.<br>Weight % | Chemical Name |
|---|---|---|
| STYRENE MONOMER<br>(VOC)<br>100-42-5 | 35 - 40 | Styrene |
| PROPRIETARY INERT | 1 - 5 | PROPRIETARY INERT |
| METHYL METHACRYLATE<br>80-62-6 | 1 - 5 | 2-Propenoic acid, 2-methyl-, methyl ester |
| PROPRIETARY INERT | 1 - 5 | PROPRIETARY INERT |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | Titanium dioxide |

If this section is blank there are no hazardous components per OSHA guidelines.

## 4. FIRST AID MEASURES

**Eye Contact:**
Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

**Skin Contact:**
Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

**Ingestion:**
Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

**Inhalation:**
Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration.

**Medical conditions aggravated by exposure:**
Any respiratory or skin condition.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Flash point (Fahrenheit): | 83 |
| Flash point (Celsius): | 28 |
| Lower explosive limit (%): | 1 |
| Upper explosive limit (%): | 6 |
| Autoignition temperature: | not determined |
| Sensitivity to impact: | no |
| Sensitivity to static discharge: | Subject to static discharge hazards. Please see bonding and grounding information in Section 7. |
| Hazardous combustion products: | See Section 10. |

**Unusual fire and explosion hazards:**
None known.

**Extinguishing media:**
Carbon dioxide, dry chemical, foam and/or water fog.

**Fire fighting procedures:**
Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

## 6. ACCIDENTAL RELEASE MEASURES

**Action to be taken if material is released or spilled:**
Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid all personal contact.

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storage:**
Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times. To maintain product quality, do not store in heat or direct sunlight. Do not store above 85 degrees F (29.4 degrees C).

## 8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

**Personal Protective Equipment**

**Eye and face protection:**
Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

**Skin protection:**

Appropriate chemical resistant gloves should be worn.

**Other Personel Protection Data:**
To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Respiratory protection:**
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

**Ventilation**
Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

**Exposure Guidelines**

**OSHA Permissible Exposure Limits (PEL's)**

| Ingredient Name<br>CAS-No. | Approx. Weight % | TWA (final) | Ceilings limits (final) | Skin designations |
|---|---|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | 100 ppm TWA | = 200 ppm Ceiling | |
| METHYL METHACRYLATE<br>80-62-6 | 1 - 5 | 100 ppm TWA<br>410 mg/m$^3$ TWA | | |
| PROPRIETARY INERT | 1 - 5 | 5 mg/m$^3$ Respirable fraction.<br>15 mg/m$^3$ Total dust. Respirable fraction. Listed.<br>Total dust. Listed. | | |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | 15 mg/m$^3$ TWA dust total | | |

**ACGIH Threshold Limit Value (TLV's)**

| Ingredient Name<br>CAS-No. | Approx. Weight % | TWA | STEL | Ceiling limits | Skin designations |
|---|---|---|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | 20 ppm TWA | 40 ppm STEL | | |
| PROPRIETARY INERT | 1 - 5 | 1 mg/m$^3$ TWA respirable fraction | | | |
| METHYL METHACRYLATE<br>80-62-6 | 1 - 5 | 50 ppm TWA | 100 ppm STEL | | |
| PROPRIETARY INERT | 1 - 5 | 10 mg/m$^3$ | | | |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | 10 mg/m$^3$ TWA | | | |

## 9. PHYSICAL PROPERTIES

| | |
|---|---|
| Odor: | Normal for this product type. |
| Physical State: | liquid |

## 9. PHYSICAL PROPERTIES

| | |
|---|---|
| pH: | not determined |
| Vapor pressure: | 35.3383459 mmHg @ 68°F (20°C) |
| Vapor density (air = 1.0): | 3.6 |
| Boiling point: | not determined |
| Solubility in water: | not determined |
| Coefficient of water/oil distribution: | not determined |
| Density (lbs per US gallon): | 8.94 |
| Specific Gravity: | 1.07 |
| Evaporation rate (butyl acetate = 1.0): | 3.1 |
| Flash point (Fahrenheit): | 83 |
| Flash point (Celsius): | 28 |
| Lower explosive limit (%): | 1 |
| Upper explosive limit (%): | 6 |
| Autoignition temperature: | not determined |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability: | Stable if protected from heat and exposure to air. |
| Conditions to Avoid: | Heat. Peroxides |
| Incompatibility: | Strong oxidizing agents Acids or alkalies. Acids |
| Hazardous Polymerization: | Product may polymerize when exposed to heat. |
| Hazardous Decomposition Products: | Carbon monoxide and carbon dioxide. |

**Sensitivity to static discharge:** Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

## 11. TOXICOLOGICAL INFORMATION

| Ingredient Name<br>CAS-No. | Approx. Weight % | NIOSH - Selected LD50s and LC50s |
|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | = 1000 mg/kg Oral LD50 Rat<br>= 11.8 mg/L Inhalation LC50 Rat 4 h |
| PROPRIETARY INERT | 1 - 5 | > 5000 mg/kg Oral LD50 Rat |
| METHYL METHACRYLATE<br>80-62-6 | 1 - 5 | = 400 ppm Inhalation LC50 Rat 1 h<br>= 4632 ppm Inhalation LC50 Rat 4 h<br>= 7872 mg/kg Oral LD50 Rat<br>> 5 g/kg Dermal LD50 Rabbit |
| PROPRIETARY INERT | 1 - 5 | = 3160 mg/kg Oral LD50 Rat |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | > 10000 mg/kg Oral LD50 Rat |

**Mutagens/Teratogens/Carcinogens:**

Contains material that may cause adverse reproductive effects.

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains styrene which is listed by IARC as a possible human carcinogen based on animal data. Neither long term animal studies, nor human epidemiology studies of workers exposed to styrene provide an adequate basis to conclude styrene is carcinogenic. Contains TIO2 which is listed by IARC as a possible human carcinogen (Group 2B) based on animal data. Neither long term animal studies, nor human epidemiology studies of workers exposed to TIO2 provide an adequate basis to conclude TIO2 is carcinogenic. TIO2 is not classified as a carcinogen by NTP, U.S. OSHA, or the U.S. EPA.

| Ingredient Name<br>CAS-No. | Approx. Weight % | IARC Group 1 - Human Evidence | IARC Group 2A - Limited Human Data | IARC Group 2B - Sufficient Animal Data |
|---|---|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | | | Monograph 60 [1994] |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | | | Monograph 47 [1989] |

| Ingredient Name<br>CAS-No. | Approx. Weight % | NTP Known Carcinogens | NTP Suspect Carcinogens | NTP Evidence of Carcinogenicity |
|---|---|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | | | male rat-negative; female rat-negative; male mice-equivocal; female mice-negative |
| METHYL METHACRYLATE<br>80-62-6 | 1 - 5 | | | male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | | | male rat-negative; female rat-negative; male mice-negative; female mice-negative |

| Ingredient Name<br>CAS-No. | Approx. Weight % | OSHA - Hazard Communication Carcinogens | OSHA - Specifically Regulated Carcinogens | ACGIH Carcinogens |
|---|---|---|---|---|
| STYRENE MONOMER (VOC)<br>100-42-5 | 35 - 40 | Present | | |
| TITANIUM DIOXIDE<br>13463-67-7 | .1 - 1 | Present | | |

## 12. ECOLOGICAL DATA

No information on ecology is available.

## 13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

**U.S. Department of Transportation**

| | |
|---|---|
| UN ID Number (msds): | UN1263 |
| Proper Shipping Name: | PAINT |
| Hazard Class: | 3 |
| Packing Group: | III |
| Hazardous Ingredient (Land) 1 | METHYL METHACRYLATE |
| Hazardous Ingredient (Land) 2 | STYRENE MONOMER (VOC) |

**U.S. Highway & Rail Shipments**

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

**Reportable Quantity Description:**

**International Air Transport Association (IATA):**

| | |
|---|---|
| UN ID Number (msds): | UN1263 |
| Proper Shipping Name: | Paint |
| Hazard Class: | 3 |
| Packing Group: | III |
| IATA N.O.S. Technical Name 1 | METHYL METHACRYLATE |
| IATA N.O.S. Technical Name 2 | STYRENE MONOMER (VOC) |

**International Maritime Organization (IMO):**

| | |
|---|---|
| IMO UN/ID Number (msds): | UN1263 |
| Proper Shipping Name: | PAINT |
| Hazard Class: | 3 |
| Packing Group: | III |
| IMDG N.O.S. Technical Name 1 | METHYL METHACRYLATE |
| IMDG N.O.S. Technical Name 2 | STYRENE MONOMER (VOC) |

## 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:**

| Ingredient Name CAS-No. | Approx. Weight % | SARA 302 | SARA 313 | CERCLA RQ in lbs. |
|---|---|---|---|---|
| STYRENE MONOMER (VOC) 100-42-5 | 35 - 40 | | form R reporting required for 0.1% de minimis concentration | 1000 |
| METHYL METHACRYLATE 80-62-6 | 1 - 5 | | form R reporting required for 1.0% de minimis concentration | 1000 |

**SARA 311/312 Hazard Class:**

| | |
|---|---|
| Acute: | yes |
| Chronic: | yes |
| Flammability: | yes |
| Reactivity: | yes |
| Sudden Pressure: | no |

**U.S. STATE REGULATIONS:**

**Right to Know:**
The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

**Pennsylvania Right To Know:**

| | |
|---|---|
| STYRENE MONOMER (VOC) | 100-42-5 |
| PROPRIETARY INERT | Trade Secret |
| PROPRIETARY INERT | Trade Secret |
| METHYL METHACRYLATE | 80-62-6 |

**Additional Non-Hazardous Materials**

| | |
|---|---|
| PROPRIETARY RESIN | Trade Secret |

**Rule 66 status of product** Not photochemically reactive.

**INTERNATIONAL REGULATIONS - Chemical Inventories**

**US TSCA Inventory:**
All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

**Canada Domestic Substances List:**
All components of this product are listed on the Domestic Substances List.

## 16. OTHER INFORMATION

**HMIS Codes**

| | |
|---|---|
| **Health:** | 2* |
| **Flammability:** | 3 |
| **Reactivity:** | 1 |
| **PPE:** | X - See Section 8 for Personal Protective Equipment (PPE). |

**Abbreviations:**
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

**Disclaimer:**
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

**Preparation Information:**

| | |
|---|---|
| Prepared By: | Regulatory Affairs Department |
| Print date: | 25/Jun/2010 |
| Revision Date: | 25/Jun/2010 |

# SAFETY DATA SHEET

**Revision Date** 29-Jan-2015 **Version** 1

## 1. IDENTIFICATION

**Product identifier**
**Product Name** HIGH PERFORMANCE THREAD SEALANT 50ML

**Other means of identification**
**Product Code** 56521
**Synonyms** None

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Sealant
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

**Distributor**
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

**Company Phone Number** 1-87-Permatex
(877) 376-2839
**24 Hour Emergency Phone Number** Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |

**Label elements**

**Emergency Overview**

**Warning**

Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure

**Appearance** White **Physical state** Liquid **Odor** Mild

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Other Information**
Not applicable

Unknown acute toxicity 93.702% of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical Name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| POLYGLYCOL DIMETHACRYLATE | 25852-47-5 | 30 - 60 | * |
| POLYMERIC PLASTICIZER | 68332-62-7 | 10 - 30 | * |
| CELLULOSE ESTER | 9004-36-8 | 10 - 30 | * |
| POLYTETRAFLUOROETHYLENE | 9002-84-0 | 3 - 7 | * |
| TITANIUM DIOXIDE | 13463-67-7 | 1 - 5 | * |
| DIMETHYLBENZYL HYDROPEROXIDE | 80-15-9 | 1 - 5 | * |
| SACCHARIN | 81-07-2 | 1 - 5 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** Get medical advice/attention if you feel unwell.

**Eye contact** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin contact** IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

**Inhalation** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

**Ingestion** IF SWALLOWED. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

**Self-protection of the first aider** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See section 2 for more information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Carbon dioxide (CO2), Dry chemical, Foam

**Unsuitable extinguishing media**
None.

**Specific hazards arising from the chemical**
None in particular.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents. Amines.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** .

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| TITANIUM DIOXIDE<br>13463-67-7 | TWA: 10 mg/m³ | TWA: 15 mg/m³ total dust<br>(vacated) TWA: 10 mg/m³ total dust | IDLH: 5000 mg/m³ |

*NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

**General Hygiene Considerations** When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state** Liquid
**Appearance** White
**Odor** Mild

| | |
|---|---|
| **Odor threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | Does not apply | |
| **Melting point / freezing point** | No information available | |
| **Boiling point / boiling range** | > 150 °C / 302 °F | |
| **Flash point** | > 93 °C / > 199 °F | Tag Closed Cup |
| **Evaporation rate** | No information available | |
| **Flammability (solid, gas)** | No information available | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit:** | No information available | |
| **Lower flammability limit:** | No information available | |
| **Vapor pressure** | No information available | |
| **Vapor density** | >1 | Air = 1 |
| **Relative density** | 1.05-1.15 | |
| **Water solubility** | insoluble | |
| **Solubility in other solvents** | No information available | |
| **Partition coefficient** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | 2.5% |
| **Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No data available

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Excessive heat

**Incompatible materials**
Strong oxidizing agents, Amines

**Hazardous Decomposition Products**
Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation of respiratory tract. |
| **Eye contact** | Contact with eyes may cause irritation. |

**Skin contact** May cause skin irritation and/or dermatitis.

**Ingestion** Ingestion may cause irritation to mucous membranes.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| TITANIUM DIOXIDE 13463-67-7 | > 10000 mg/kg ( Rat ) | - | - |
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | = 382 mg/kg ( Rat ) | = 0.126 mL/kg ( Rabbit ) | = 220 ppm ( Rat ) 4 h |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.
**Germ cell mutagenicity** No information available.
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| POLYTETRAFLUOROETHYLENE 9002-84-0 | - | Group 3 | - | - |
| TITANIUM DIOXIDE 13463-67-7 | - | Group 2B | - | X |
| SACCHARIN 81-07-2 | - | Group 3 | - | - |

*IARC (International Agency for Research on Cancer)*
*Group 2B - Possibly Carcinogenic to Humans*
*Not classifiable as a human carcinogen*
*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*
*X - Present*

**Target Organ Effects** Respiratory system.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document** .

**ATEmix (oral)** 1121 mg/kg
**ATEmix (dermal)** 3413 mg/kg
**ATEmix (inhalation-dust/mist)** 1.6 mg/l

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

None known
95.95% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | - | 3.9: 96 h Oncorhynchus mykiss mg/L LC50 static | 7: 24 h Daphnia magna mg/L EC50 |
| SACCHARIN 81-07-2 | - | 18300: 96 h Pimephales promelas mg/L LC50 | - |

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Mobility**
No information available.

**Other adverse effects**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Do not reuse container.

**US EPA Waste Number** U096 U166

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | - | - | - | U096 |

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste Status |
|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | Toxic<br>Ignitable |

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

## 15. REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Does not comply |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Does not comply |
| **AICS** | Does not comply |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

## US Federal Regulations

### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE - 80-15-9 | 1.0 |
| SACCHARIN - 81-07-2 | 1.0 |

### SARA 311/312 Hazard Categories

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire hazard** | Yes |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | 10 lb | - | RQ 10 lb final RQ<br>RQ 4.54 kg final RQ |

## US State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals

| Chemical Name | California Proposition 65 |
|---|---|
| TITANIUM DIOXIDE - 13463-67-7 | Carcinogen |

### U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| TITANIUM DIOXIDE 13463-67-7 | X | X | X |
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | X | X | X |
| SACCHARIN 81-07-2 | X | X | X |
| PROPYLENE GLYCOL 57-55-6 | X | - | X |
| 1,4-NAPHTHOQUINONE 130-15-4 | X | X | X |

### U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 1 | **Flammability** 1 | **Instability** 0 | - |
| **HMIS** | **Health hazards** 1 | **Flammability** 1 | **Physical hazards** 0 | **Personal protection** B |

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

**Revision Date** 29-Jan-2015

**Disclaimer**

**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# SAFETY DATA SHEET

**Revision Date** 29-Jan-2015 **Version** 1

## 1. IDENTIFICATION

**Product identifier**
**Product Name** HIGH PERFORMANCE THREAD SEALANT 50ML

**Other means of identification**
**Product Code** 56521
**Synonyms** None

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Sealant
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

**Distributor**
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

**Company Phone Number** 1-87-Permatex
(877) 376-2839
**24 Hour Emergency Phone Number** Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |

**Label elements**

**Emergency Overview**

**Warning**

Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure

**Appearance** White **Physical state** Liquid **Odor** Mild

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Other Information**
Not applicable

Unknown acute toxicity 93.702% of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical Name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| POLYGLYCOL DIMETHACRYLATE | 25852-47-5 | 30 - 60 | * |
| POLYMERIC PLASTICIZER | 68332-62-7 | 10 - 30 | * |
| CELLULOSE ESTER | 9004-36-8 | 10 - 30 | * |
| POLYTETRAFLUOROETHYLENE | 9002-84-0 | 3 - 7 | * |
| TITANIUM DIOXIDE | 13463-67-7 | 1 - 5 | * |
| DIMETHYLBENZYL HYDROPEROXIDE | 80-15-9 | 1 - 5 | * |
| SACCHARIN | 81-07-2 | 1 - 5 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** Get medical advice/attention if you feel unwell.

**Eye contact** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin contact** IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

**Inhalation** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

**Ingestion** IF SWALLOWED. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

**Self-protection of the first aider** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See section 2 for more information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Carbon dioxide (CO2), Dry chemical, Foam

**Unsuitable extinguishing media**
None.

**Specific hazards arising from the chemical**
None in particular.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents. Amines.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** .

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| TITANIUM DIOXIDE<br>13463-67-7 | TWA: 10 mg/m³ | TWA: 15 mg/m³ total dust<br>(vacated) TWA: 10 mg/m³ total dust | IDLH: 5000 mg/m³ |

*NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

**General Hygiene Considerations** When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state** Liquid
**Appearance** White
**Odor** Mild

| | |
|---|---|
| **Odor threshold** | No information available |

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | Does not apply | |
| **Melting point / freezing point** | No information available | |
| **Boiling point / boiling range** | > 150 °C / 302 °F | |
| **Flash point** | > 93 °C / > 199 °F | Tag Closed Cup |
| **Evaporation rate** | No information available | |
| **Flammability (solid, gas)** | No information available | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit:** | No information available | |
| **Lower flammability limit:** | No information available | |
| **Vapor pressure** | No information available | |
| **Vapor density** | >1 | Air = 1 |
| **Relative density** | 1.05-1.15 | |
| **Water solubility** | insoluble | |
| **Solubility in other solvents** | No information available | |
| **Partition coefficient** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | 2.5% |
| **Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No data available

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Excessive heat

**Incompatible materials**
Strong oxidizing agents, Amines

**Hazardous Decomposition Products**
Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation of respiratory tract. |
| **Eye contact** | Contact with eyes may cause irritation. |

**Skin contact** May cause skin irritation and/or dermatitis.

**Ingestion** Ingestion may cause irritation to mucous membranes.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| TITANIUM DIOXIDE 13463-67-7 | > 10000 mg/kg ( Rat ) | - | - |
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | = 382 mg/kg ( Rat ) | = 0.126 mL/kg ( Rabbit ) | = 220 ppm ( Rat ) 4 h |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.
**Germ cell mutagenicity** No information available.
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| POLYTETRAFLUOROETHYLENE 9002-84-0 | - | Group 3 | - | - |
| TITANIUM DIOXIDE 13463-67-7 | - | Group 2B | - | X |
| SACCHARIN 81-07-2 | - | Group 3 | - | - |

*IARC (International Agency for Research on Cancer)*
*Group 2B - Possibly Carcinogenic to Humans*
*Not classifiable as a human carcinogen*
*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*
*X - Present*

**Target Organ Effects** Respiratory system.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document** .

**ATEmix (oral)** 1121 mg/kg
**ATEmix (dermal)** 3413 mg/kg
**ATEmix (inhalation-dust/mist)** 1.6 mg/l

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

None known
95.95% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | - | 3.9: 96 h Oncorhynchus mykiss mg/L LC50 static | 7: 24 h Daphnia magna mg/L EC50 |
| SACCHARIN 81-07-2 | - | 18300: 96 h Pimephales promelas mg/L LC50 | - |

**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Mobility**
No information available.

**Other adverse effects**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Do not reuse container.

**US EPA Waste Number** U096 U166

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | - | - | - | U096 |

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste Status |
|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | Toxic<br>Ignitable |

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

## 15. REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Does not comply |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Does not comply |
| **AICS** | Does not comply |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

## US Federal Regulations

### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE - 80-15-9 | 1.0 |
| SACCHARIN - 81-07-2 | 1.0 |

### SARA 311/312 Hazard Categories

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire hazard** | Yes |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | 10 lb | - | RQ 10 lb final RQ<br>RQ 4.54 kg final RQ |

## US State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals

| Chemical Name | California Proposition 65 |
|---|---|
| TITANIUM DIOXIDE - 13463-67-7 | Carcinogen |

### U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| TITANIUM DIOXIDE 13463-67-7 | X | X | X |
| DIMETHYLBENZYL HYDROPEROXIDE 80-15-9 | X | X | X |
| SACCHARIN 81-07-2 | X | X | X |
| PROPYLENE GLYCOL 57-55-6 | X | - | X |
| 1,4-NAPHTHOQUINONE 130-15-4 | X | X | X |

### U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 1 | **Flammability** 1 | **Instability** 0 | - |
| **HMIS** | **Health hazards** 1 | **Flammability** 1 | **Physical hazards** 0 | **Personal protection** B |

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

**Revision Date** 29-Jan-2015

**Disclaimer**

**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 05-6937-6 | **Version Number:** | 24.00 |
| **Issue Date:** | 04/22/16 | **Supercedes Date:** | 04/28/15 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(TM) Silicone Lubricant

**Product Identification Numbers**
62-4678-0930-7, 62-4678-0931-5, 62-4678-4930-3, 62-4678-4935-2, 78-8033-2219-3

**1.2. Recommended use and restrictions on use**

**Recommended use**
Industrial use

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2B.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Gas cylinder | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes eye irritation.
May cause drowsiness or dizziness.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).

**Storage:**
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. May cause frostbite.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Isobutane | 75-28-5 | 70 - 80 Trade Secret * |
| Heptane | 142-82-5 | 15 - 25 Trade Secret * |
| Poly(dimethylsiloxane) | 63148-62-9 | 3 - 7 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. Get medical attention.

**Skin Contact:**
Thaw frosted skin with lukewarm water. Do not rub affected area. Get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust

vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Heptane | 142-82-5 | ACGIH | TWA:400 ppm;STEL:500 ppm | |
| Heptane | 142-82-5 | OSHA | TWA:2000 mg/m3(500 ppm) | |
| Isobutane | 75-28-5 | ACGIH | STEL:1000 ppm | |
| Natural gas | 75-28-5 | ACGIH | Limit value not established: | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

**Thermal hazards**
Wear cold insulating gloves/face shield/eye protection.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Odor, Color, Grade:** | in aerosol, transparent, very slight odor |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *No Data Available* |
| **Flash Point** | -50 ºF [*Test Method:* Tagliabue Closed Cup] [*Details:* CONDITIONS: Propellant] |
| **Evaporation rate** | 1.9 [*Ref Std:* WATER=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | Approximately 1.5 % volume |
| **Flammable Limits(UEL)** | Approximately 8 % volume |
| **Vapor Density** | 2.97 [*Ref Std:* AIR=1] |
| **Density** | 0.64 g/ml |
| **Specific Gravity** | 0.640 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Nil |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | *Not Applicable* |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **Molecular weight** | *No Data Available* |
| **Volatile Organic Compounds** | <=606 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* Material VOC] |
| **Volatile Organic Compounds** | <=94.7 % [*Test Method:* calculated per CARB title 2] |
| **Solids Content** | 0 % |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Frostbite: Signs/symptoms may include intense pain, discoloration of skin, and tissue destruction.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Frostbite: Signs/symptoms may include intense pain, clouding of the cornea, redness, swelling, and blindness.

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Isobutane | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| Heptane | Dermal | Rabbit | LD50 3,000 mg/kg |
| Heptane | Inhalation-Vapor (4 hours) | Rat | LC50 103 mg/l |
| Heptane | Ingestion | Rat | LD50 > 15,000 mg/kg |
| Poly(dimethylsiloxane) | Dermal | Rabbit | LD50 > 19,400 mg/kg |
| Poly(dimethylsiloxane) | Ingestion | Rat | LD50 > 17,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Isobutane | Professional judgement | No significant irritation |
| Heptane | Human | Mild irritant |
| Poly(dimethylsiloxane) | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Isobutane | Professional judgement | No significant irritation |
| Heptane | Professional judgement | Moderate irritant |

| | | |
|---|---|---|
| Poly(dimethylsiloxane) | Rabbit | No significant irritation |

**Skin Sensitization**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Respiratory Sensitization**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Isobutane | In Vitro | Not mutagenic |
| Heptane | In Vitro | Not mutagenic |

**Carcinogenicity**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Isobutane | Inhalation | cardiac sensitization | Causes damage to organs | Multiple animal species | NOAEL Not available | |
| Isobutane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Isobutane | Inhalation | respiratory irritation | All data are negative | Mouse | NOAEL Not available | |
| Heptane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Heptane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Heptane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Isobutane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 4,500 ppm | 13 weeks |
| Heptane | Inhalation | liver \| nervous system \| kidney and/or bladder | All data are negative | Rat | NOAEL 12 mg/l | 26 weeks |

**Aspiration Hazard**

| Name | Value |
|---|---|
| Heptane | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
**Aerosol Storage Code:** 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 05-6937-6 | **Version Number:** | 24.00 |
| **Issue Date:** | 04/22/16 | **Supercedes Date:** | 04/28/15 |

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**3M USA SDSs are available at www.3M.com**

APIEZON®

# H GREASE

## Safety Data Sheet



### 1. Identification of the Substance/Mixture and of the Company/Undertaking

**1.1 Product Identifier**
**Material Name:** Apiezon H Grease.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**
**Product Use:** High temperature vacuum grease.
**Uses advised against:** None.

**1.3 Details of the supplier of the substance or mixture**
**Company:** M&I Materials Ltd., Hibernia Way, Trafford Park, Manchester, M32 0ZD, UK.
**Telephone:** +44 (0)161 864 5409.
**Emergency Telephone**: +44 (0)161 864 5439.
**Email:** RussellMartin@mimaterials.com.

### 2. Hazards Identification

This product is not classified as hazardous and therefore there is no legal requirement to provide an SDS in Europe. This document has been compiled for information purposes, in accordance with Regulation (EU) No 453/2010.

**2.1 Classification of the substance or mixture**
**Regulation (EC) No 1272/2008 (CLP):** Not classified.
**67/548/EEC or 1999/45/EC:** Not classified as dangerous under EC criteria.

**2.2 Label elements**
**Regulation (EC) No 1272/2008 (CLP):** No symbol or signal word.
**Directive 1999/45/EC, 67/548/EEC:** No symbols or phrases required.

**2.3 Other hazards**
None.

### 3. Composition/Information on Ingredients

**3.2 Mixture**
**CAS No.:** 8012-95-1.
**CAS No.:** 68953-58-2.

### 4. First Aid Measures

**4.1 Description of first aid measures**
**Inhalation:** None envisaged due to the low vapour pressure of the substance.
**Skin:** Wash with soap and water.
**Eyes:** Irrigate with copious amounts of water.
**Ingestion:** Do not induce vomiting, obtain medical attention.

**4.2 Most important symptoms and effects, both acute and delayed**
No adverse effects expected.

**4.3 Indication of any immediate medical attention and special treatment needed**
No special treatment required.

### 5. Fire Fighting Measures

**5.1 Extinguishing media**
Carbon dioxide, dry powder, foam or water fog. Do not use water jets.

APIEZON®

H GREASE

# Safety Data Sheet



**5.2 Special hazards arising from the substance or mixture**
None.

**5.3 Advice for fire fighters**
No special precautions are required.

## 6. Accidental Release Measures

**6.1 Personal precautions, protective equipment and emergency procedures**
Spilt product constitutes a slip hazard. Avoid contact with eyes.

**6.2 Environmental precautions**
No special precautions required.

**6.3 Methods and material for containment and cleaning up**
Can be wiped from surfaces and residues cleaned with water and detergent.

## 7. Handling and Storage

**7.1 Precautions for safe handling**
No special precautions required.

**7.2 Conditions for safe storage, including any incompatibilities**
No special precautions required.

**7.3 Specific end use(s)**
No special precautions required.

## 8. Exposure Controls/ Personal Protection

**8.1 Control parameters**
No relevant control parameters.

**8.2 Exposure controls**
The level of controls depends on the use. In most cases very small quantities of material are used. Eye washes should be available for emergency use.
**Respiratory protection:** None required.
**Hand protection:** Wash hands after use. For prolonged or repeated skin contact gloves are recommended.
**Eye protection:** None required.

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**
**Appearance:** Semi-solid brown grease.
**Odour:** None.
**pH**: Not applicable.
**Melting point:** Does not melt.
**Initial boiling point and boiling range:** >450°C.
**Flash point:** >260°C.
**Flammability (solid, gas):** Data not available.
**Upper/lower flammability or explosive limits:** Data not available.
**Vapour pressure:** $1.7 \times 10^{-9}$ Torr at 20°C.
**Vapour density:** Not applicable.
**Relative density:** 0.918 at 20°C.
**Water solubility:** Insoluble.
**Solubility:** Soluble in aromatic hydrocarbon solvents.

**Partition coefficient:** n-octanol/water: Data not available.
**Auto-ignition temperature:** >320°C.
**Decomposition temperature:** Data not available.
**Viscosity:** Not applicable.
**Explosive properties:** Data not available.
**Oxidising properties:** Data not available.

**9.2 Other information**
Not applicable.

## 10. Stability and Reactivity

**10.1 Reactivity**
Stable under normal conditions of use.

**10.2 Chemical stability**
Stable under normal conditions of use.

**10.3 Possibility of hazardous reactions**
Data not available.

**10.4 Conditions to avoid**
Temperatures >250°C.

**10.5 Incompatible materials**
Strong oxidising agents.

**10.6 Hazardous decomposition products**
None.

## 11. Toxicological Information

**11.1 Information on toxicological effects**
**Likely routes of exposure:** Skin and eyes are the most likely routes for exposure. Accidental ingestion may occur. Inhalation is not expected to be a relevant route of exposure.
**Acute oral toxicity:** Low toxicity: LD50 >2000mg/kg.
**Acute dermal toxicity:** Expected to be of low toxicity: LD50 >2000mg/kg.
**Acute inhalation toxicity:** Low volatility makes inhalation unlikely.
**Skin corrosion/irritation:** Repeated and prolonged skin contact may cause dry skin or irritation.
**Eye corrosion/irritation:** May cause transient irritation.
**Respiratory or skin sensitisation:** Not expected to be a skin sensitiser.
**Aspiration hazard:** Not considered an aspiration hazard.
**Carcinogenicity/mutagenicity:** Not considered a mutagenic hazard or carcinogen.

## 12. Ecological Information

When used and/or disposed of as indicated no adverse environmental effects are foreseen. Ecotoxicological effects based on knowledge of similar substances.

**12.1 Toxicity**
Expected to be practically non-toxic.

**12.2 Persistence and degradability**
Inherently biodegradable.

APIEZON®

H GREASE

# Safety Data Sheet



**12.3 Bioaccumulative potential**
Has the potential to bioaccumulate.
**12.4 Mobility in soil**
Product has low mobility in soil.

**12.5 Results of PBT and vPvB assessment**
The product does not meet criteria for toxicity which requires further assessment. It is not considered PBT or vPvB.

**12.6 Other adverse effects**
No other adverse effects envisaged.

## 13. Disposal Considerations

**13.1 Waste treatment methods**
Product and packaging must be disposed of in accordance with local and national regulations. May be incinerated. Unused product may be returned for reclamation.

## 14. Transport Information

Not classified as hazardous under air (ICAO/IATA), sea (IMDG), road (ADR) or rail (RID) regulations.
**14.1 UN number**
Not relevant.

**14.2 UN proper shipping name**
Not relevant.

**14.3 Transport hazard class**
Not relevant.

**14.4 Packing group**
Not relevant.

**14.5 Environmental hazards**
Not relevant.

**14.6 Special precautions for user**
Not relevant.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Product is not subject to Authorisation under REACH.

**15.2 Chemical safety assessment**
A chemical safety assessment has been performed for this substance.

## 16. Other Information

Compiled according to regulation 1907/EC/2006.
**16.1 Changes from last issue:**
No significant changes.

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# H GREASE

## Safety Data Sheet



The information provided in this Safety Data Sheet is correct to our best knowledge, information and belief at the date of its publication. It is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be construed as guaranteeing any specific property of the product.

SEALED AIR CORP -- HOLSTER/INSTAPACKER SOLVENT -- 8135-00F028719

```
==========  Product Identification  ==========

Product ID:HOLSTER/INSTAPACKER SOLVENT
MSDS Date:01/01/1992
FSC:8135
NIIN:00F028719
MSDS Number: BRTYK
=== Responsible Party ===
Company Name:SEALED AIR CORP
Address:OLD SHERMAN TPKE
City:DANBURY
State:CT
ZIP:06810
Country:US
Info Phone Num:203-791-3500/203-792-2360
Emergency Phone Num:203-791-3500/203-792-2360
CAGE:51614
=== Contractor Identification ===
Company Name:SEALED AIR CORP INSTAPAK DIVISION
Address:OLD SHERMAN TPKE
Box:City:DANBURY
State:CT
ZIP:06810
Country:US
Phone:203-791-3500/800-424-9300(CHEMTREC)
CAGE:51614

==========  Composition/Information on Ingredients  ==========

Ingred Name:TRIPROPYLENE GLYCOL METHYL ETHER
CAS:20324-33-8
RTECS #:UB7875900
Fraction by Wt: >99%

Ingred Name:WEIGHT PER GALLON IN POUNDS: 8.1
RTECS #:9999999WG

==========  Hazards Identification  ==========

LD50 LC50 Mixture:ORAL LD50 (RATS): 3200 MG/KG
Routes of Entry: Inhalation:YES  Skin:YES  Ingestion:YES
Reports of Carcinogenicity:NTP:NO    IARC:NO OSHA:NO
Health Hazards Acute and Chronic:INHALATION: ANESTHETIC OR NARCOTIC
    EFFECTS. SKIN: MILD IRRITATION & ABSORBENT IN POTENTIALLY TOXIC
    AMOUNTS. EYES: IRRITATION. INGESTION: LARGE AMOUNTS COULD CAUSE
    INJURY. CENTRAL NERVOUS SYSTEM DEPRES SION AT HIGH LEVELS.
Explanation of Carcinogenicity:NONE
Medical Cond Aggravated by Exposure:KIDNEY, URETHRA OR BLADDER DISEASE

==========  First Aid Measures  ==========

First Aid:INHALATION: REMOVE TO FRESH AIR. ADMINISTER OXYGEN IF
    BREATHING IS DIFFICULT. SKIN: WASH W/SOAP & WATER. EYES: FLUSH
    W/WATER FOR AT LEAST 5 MINS, HOLDING LIDS OPEN W/FINGERS.
    INGESTION: INDUCE VOMITIN G. NOTE TO PHYSICIAN: NO SPECIFIC
    ANTIDOTE. TREATMENT IS SYMPTOMATIC. OBTAIN MEDICAL ATTENTION IN ALL
    CASES.

==========  Fire Fighting Measures  ==========

Flash Point Method:PMCC
Flash Point:240F, 116C
Extinguishing Media:WATER FOG, ALCOHOL RESISTANT FOAM, CO2, DRY
    CHEMICAL
Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS &
    PROTECTIVE CLOTHING.
```

========== Accidental Release Measures ==========

Spill Release Procedures:ABSORB ON LOOSE ABSORBENT, NON-BIODEGRADABLE MATERIAL.

========== Handling and Storage ==========

Handling and Storage Precautions:STORE AT A MINIMUM TEMPERATURE OF 20-120F. AVERAGE SHELF LIFE IS 2 YEARS.
Other Precautions:AVOID BREATHING VAPOR.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:NONE REQUIRED IN NORMAL USE
Ventilation:REQUIRED
Protective Gloves:CHEMICAL RESISTANT RUBBER OR PLASTIC
Eye Protection:SAFETY GLASSES &/OR GOGGLES
Other Protective Equipment:EYE WASH STATION
Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. PRACTICE GOOD CHEMICAL HYGIENE.
Supplemental Safety and Health

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:468F/242C
Melt/Freeze Pt:M.P/F.P Text:-100F/-73C
Vapor Pres:0.02
Vapor Density:7.15
Spec Gravity:0.965
Solubility in Water:COMPLETE
Appearance and Odor:CLEAR LIQUID W/MILD GLYCOL ETHER

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZERS
Stability Condition to Avoid:TEMPS <20F & >120F
Hazardous Decomposition Products:CO & CO2

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE OR INCINERATE SOLID WASTE IN ACCORDANCE W/FEDERAL, STATE, & LOCAL REGULATIONS. PRODUCT MAY BE INCINERATED.

**Permatex, Inc.**
**10 Columbus Blvd.**
**Hartford, CT 06106 USA**
**Telephone: 1-87-Permatex**
**(877) 376-2839**
**Emergency: 800-255-3924**
**International Emergency: 813-248-0585**

# Material Safety Data Sheet

## 1. PRODUCT IDENTIFICATION

**Product Name:** **78E HYDRAULIC JACK OIL 1QT CN**
**Item No:** **80054**
**Product Type:** **Lubricant**

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredient | Weight Percent | ACGIH TLV: TWA | OSHA PEL: |
|---|---|---|---|
| DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC 64742-53-6 | >90 | 5 mg/m$^3$ TWA | 5 mg/m$^3$ TWA |
| POLYMETHACRYLATE DISPERSION MIXTURE | <10 | Not Listed | Not Listed |

## 3. HAZARDS IDENTIFICATION

**Toxicity:** May cause eye, skin and respiratory irritation. Prolonged skin contact may result in dermatitis in sensitive individuals. Aspiration hazard if swallowed.

**Primary Routes of Entry:** Eye and skin contact, ingestion, inhalation

**Signs and Symptoms of Exposure:** Overexposure may cause eye and skin redness. Inhaling may cause mild irritation to the nose, throat and respiratory tract and may result in central nervous system (CNS) depression.

**Medical Conditions Recognized as Being Aggravated by Exposure:** Preexisting pulmonary and dermatological disorders.

## 4. FIRST AID MEASURES

**Ingestion:** Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

**Inhalation:** Move to fresh air in case of accidental inhalation of vapours. Obtain medical attention.

**Skin Contact:** Wash off with soap and water. If skin irritation persists, call a physician.

**Eye Contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

## 5. FIRE FIGHTING MEASURES

**Flash Point (°F/C):** Greater than 200 degrees F.

**Recommended Extinguishing Media:** Carbon Dioxide, Dry Chemicals, Foam.

**Special Fire-Fighting Procedures:** Firefighters should wear self-contained breathing apparatus.

**Hazardous Products of Combustion:** Carbon monoxide, Carbon dioxide

**Unusual Fire/Explosion Hazards:** Closed containers may rupture or explode when exposed to extreme heat.

**Lower Explosive Limit:** Not determined.

**Upper Explosive Limit:** Not determined.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill Procedures:** Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal. Residues may be cleaned up with soap and water.

## 7. HANDLING AND STORAGE

**Storage:** Store away from heat, sparks or open flame. Do not store at temperatures above 120 degrees F.

**Handling:** Avoid prolonged skin contact. Keep away from eyes. Do not inhale vapors.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eyes:** Safety glasses

**Product Name:** 78E HYDRAULIC JACK OIL 1QT CN **Item No:** 80054

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Skin:** Rubber or plastic gloves.
**Ventilation:** General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits (or to the lowest feasible levels when limits have not been established) during the use of this product.
**Respiratory Protection:** Not required under normal use. An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Amber liquid
**Odor:** MILD
**Boiling Point:** >500°F
**pH:** Does not apply
**Solubility in Water:** Nil
**Specific Gravity:** 0.9 @ 15°C
**VOC Content(Wt.%):** 0
**Vapor Pressure:** <5 mm Hg
**Vapor Density (Air=1):** Greater than 1
**Evaporation Rate:** <1 (butyl acetate = 1)

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable at normal conditions
**Hazardous Polymerization:** Will not occur.
**Incompatabilities:** Strong oxidizers
**Conditions to Avoid:** Heat
**Hazardous Products of Combustion:** Carbon monoxide, Carbon dioxide

## 11. TOXICOLOGICAL INFORMATION

See Section 3

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Recommended Method of Disposal:** Disposal should be made in accordance with federal, state and local regulations.
**US EPA Waste Number:** NH - Not a RCRA Hazardous Waste Material

## 14. TRANSPORTATION INFORMATION

**DOT (49CFR 172)**

**Domestic Ground Transport**

**DOT Shipping Name:** Unrestricted
**Hazard Class:** None
**UN/ID Number:** None
**Marine Pollutant:** None

**IATA**

**Proper Shipping Name:** Not regulated
**Class or Division:** None
**UN/NA Number:** None

**IMDG**

**Proper Shipping:** Unrestricted
**Hazard Class:** None
**UN Number:** None

## 15. REGULATORY INFORMATION

**SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.**

NONE

**CALIFORNIA PROP 65:**
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**Product Name:** 78E HYDRAULIC JACK OIL 1QT CN **Item No:** 80054

**TSCA Inventory Status:**
**Listed on Inventory:** **YES** All components of this product are listed (or exempt) on the EPA TSCA inventory.

## *16. OTHER INFORMATION*

**Estimated NFPA Rating:** HEALTH 1, FLAMMABILITY 1 , REACTIVITY 0
**Estimated HMIS Classification:** HEALTH 1, FLAMMABILITY 1, PHYSICAL HAZARD 0
NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

**Prepared By:** Denise Boyd, Health and Safety Manager
**Company:** Permatex. Inc. 10 Columbus Blvd. Hartford, CT USA 06106
**Revision Date:** February/20/2007
**Revision Number:** 3

# SAFETY DATA SHEET

Hydrogen

## Section 1. Identification

**GHS product identifier** : Hydrogen

**Chemical name** : hydrogen

**Other means of identification** : Dihydrogen; o-Hydrogen; p-Hydrogen; Molecular hydrogen; H2; UN 1049

**Product use** : Synthetic/Analytical chemistry.

**Synonym** : Dihydrogen; o-Hydrogen; p-Hydrogen; Molecular hydrogen; H2; UN 1049

**SDS #** : 001026

**Supplier's details** : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

**24-hour telephone** : 1-866-734-3438

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
Burns with invisible flame.
May form explosive mixtures in Air.
May displace oxygen and cause rapid suffocation.

**Precautionary statements**

**General** : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

**Prevention** : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response** : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

**Storage** : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Substance

**Chemical name** : hydrogen

**Other means of identification** : Dihydrogen; o-Hydrogen; p-Hydrogen; Molecular hydrogen; H2; UN 1049

## CAS number/other identifiers

**CAS number** : 1333-74-0

**Product code** : 001026

| Ingredient name | % | CAS number |
|---|---|---|
| hydrogen | 100 | 1333-74-0 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : As this product is a gas, refer to the inhalation section.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Frostbite** : Try to warm up the frozen tissues and seek medical attention.

**Ingestion** : As this product is a gas, refer to the inhalation section.

### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## Section 4. First aid measures

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Hazardous thermal decomposition products** : No specific data.

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

**Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| hydrogen | Oxygen Depletion [Asphyxiant] |

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

## Skin protection

## Section 8. Exposure controls/personal protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Gas

**Color** : Colorless.

**Molecular weight** : 2.02 g/mole

**Molecular formula** : H2

**Boiling/condensation point** : -253°C (-423.4°F)

**Melting/freezing point** : -259.15°C (-434.5°F)

**Critical temperature** : -240.15°C (-400.3°F)

**Odor** : Odorless.

**Odor threshold** : Not available.

**pH** : Not available.

**Flash point** : Not available.

**Burning time** : Not applicable.

**Burning rate** : Not applicable.

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: oxidizing materials.

**Lower and upper explosive (flammable) limits** : Lower: 4%
Upper: 76%

**Vapor pressure** : Not available.

**Vapor density** : 0.07 (Air = 1) Liquid Density@BP: 4.43 lb/ft3 (70.96 kg/m3)

**Specific Volume ($ft^3$/lb)** : 191.9386

**Gas Density (lb/$ft^3$)** : 0.00521

**Relative density** : Not applicable.

**Solubility** : Not available.

**Solubility in water** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : 500 to 571°C (932 to 1059.8°F)

**Decomposition temperature** : Not available.

**SADT** : Not available.

## Section 9. Physical and chemical properties

**Viscosity** : Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials** : Oxidizers

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

Not available.

**Irritation/Corrosion**

Not available.

**Sensitization**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

## Section 11. Toxicological information

**Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Ingestion** : As this product is a gas, refer to the inhalation section.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

| | DOT | TDG | Mexico | IMDG | IATA |
|---|---|---|---|---|---|
| **UN number** | UN1049 | UN1049 | UN1049 | UN1049 | UN1049 |
| **UN proper shipping name** | HYDROGEN, COMPRESSED | HYDROGEN, COMPRESSED | HYDROGEN COMPRESSED | HYDROGEN, COMPRESSED | HYDROGEN, COMPRESSED |
| **Transport hazard class(es)** | 2.1   | 2.1   | 2.1   | 2.1   | 2.1   |
| **Packing group** | - | - | - | - | - |
| **Environment** | No. | No. | No. | No. | No. |
| **Additional information** | **Limited quantity** Yes.<br><br>**Packaging instruction**<br>**Passenger aircraft** Quantity limitation: Forbidden.<br><br>**Cargo aircraft** Quantity limitation: 150 kg | Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).<br><br>**Explosive Limit and Limited Quantity Index** 0.125<br><br>**ERAP Index** 3000<br><br>**Passenger Carrying Ship Index** Forbidden<br><br>**Passenger Carrying Road or Rail Index** Forbidden | - | - | **Passenger and Cargo Aircraft** Quantity limitation: 0 Forbidden<br>**Cargo Aircraft Only** Quantity limitation: 150 kg |

**"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."**

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: This material is listed or exempted.
**United States inventory (TSCA 8b)**: This material is listed or exempted.
**Clean Air Act (CAA) 112 regulated flammable substances**: hydrogen

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Fire hazard
Sudden release of pressure

**Composition/information on ingredients**

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| hydrogen | 100 | Yes. | Yes. | No. | No. | No. |

**State regulations**

**Massachusetts** : This material is listed.
**New York** : This material is not listed.
**New Jersey** : This material is listed.
**Pennsylvania** : This material is listed.

**International regulations**

**International lists**

**National inventory**

**Australia** : This material is listed or exempted.
**Canada** : This material is listed or exempted.
**China** : This material is listed or exempted.
**Europe** : This material is listed or exempted.
**Japan** : Not determined.
**Malaysia** : This material is listed or exempted.
**New Zealand** : This material is listed or exempted.
**Philippines** : This material is listed or exempted.
**Republic of Korea** : This material is listed or exempted.
**Taiwan** : This material is listed or exempted.

**Canada**

**WHMIS (Canada)** : Class A: Compressed gas.
Class B-1: Flammable gas.

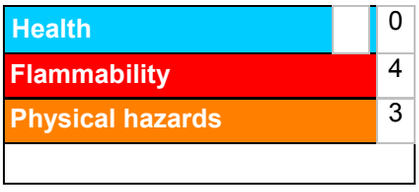
## Section 15. Regulatory information

**CEPA Toxic substances**: This material is not listed.
**Canadian ARET**: This material is not listed.
**Canadian NPRI**: This material is not listed.
**Alberta Designated Substances**: This material is not listed.
**Ontario Designated Substances**: This material is not listed.
**Quebec Designated Substances**: This material is not listed.

## Section 16. Other information

**Canada Label requirements** : Class A: Compressed gas.
Class B-1: Flammable gas.

**Hazardous Material Information System (U.S.A.)**




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)**


**Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.**

**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| Flam. Gas 1, H220<br>Press. Gas Comp. Gas, H280 | Expert judgment<br>According to package |

**History**

**Date of printing** : 8/10/2015

**Date of issue/Date of revision** : 8/10/2015

**Date of previous issue** : No previous validation

**Version** : 0.01

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient

## Section 16. Other information

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

**References** : Not available.

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# MATERIAL SAFETY DATA SHEET

**B54W101**
**47 00**

**DATE OF PREPARATION**
Nov 5, 2015

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
B54W101
**PRODUCT NAME**
Industrial Enamel, Pure White
**MANUFACTURER'S NAME**
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (800) 524-5979<br>www.sherwin-williams.com |
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **40** | **64742-88-7** | **Med. Aliphatic Hydrocarbon Solvent** | | |
| | | ACGIH TLV | 100 PPM | 1.27 mm |
| | | OSHA PEL | 100 PPM | |
| **0.1** | **100-41-4** | **Ethylbenzene** | | |
| | | ACGIH TLV | 20 PPM | 7.1 mm |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 125 PPM STEL | |
| **6** | **14807-96-6** | **Talc** | | |
| | | ACGIH TLV | 2 mg/m3 as Resp. Dust | |
| | | OSHA PEL | 2 mg/m3 as Resp. Dust | |
| **14** | **13463-67-7** | **Titanium Dioxide** | | |
| | | ACGIH TLV | 10 mg/m3 as Dust | |
| | | OSHA PEL | 10 mg/m3 Total Dust | |
| | | OSHA PEL | 5 mg/m3 Respirable Fraction | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2* |
| **Flammability** | 2 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
**SIGNS AND SYMPTOMS OF OVEREXPOSURE**
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
None generally recognized.
**CANCER INFORMATION**
For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | FLAMMABILITY CLASSIFICATION |
|---|---|---|---|
| 101 °F PMCC | 1.0 | 6.0 | Combustible, Flash above 99 and below 200 °F |

**EXTINGUISHING MEDIA**
Carbon Dioxide, Dry Chemical, Foam
**UNUSUAL FIRE AND EXPLOSION HAZARDS**
Closed containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
**SPECIAL FIRE FIGHTING PROCEDURES**
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**
DOL Storage Class II
**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**
Contents are COMBUSTIBLE. Keep away from heat and open flame.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
**VENTILATION**
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
**RESPIRATORY PROTECTION**
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
**PROTECTIVE GLOVES**
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
**EYE PROTECTION**
Wear safety spectacles with unperforated sideshields.
**OTHER PRECAUTIONS**
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 8.78 lb/gal | 1051 g/l |
| **SPECIFIC GRAVITY** | 1.06 | |
| **BOILING POINT** | 300 - 395 °F | 148 - 201 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 56% | |
| **EVAPORATION RATE** | Slower than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

| | | |
|---|---|---|
| 3.68 lb/gal | 441 g/l | Less Water and Federally Exempt Solvents |
| 3.68 lb/gal | 441 g/l | Emitted VOC |

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| **64742-88-7** | **Med. Aliphatic Hydrocarbon Solvent** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **100-41-4** | **Ethylbenzene** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 3500 mg/kg |
| **14807-96-6** | **Talc** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **13463-67-7** | **Titanium Dioxide** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

**US Ground (DOT)**

May be Classed as a Combustible Liquid for U.S. Ground.
UN1263, PAINT, 3, PG III, (ERG#128)

**DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities**

Xylenes (isomers and mixture) 100 lb RQ

**Bulk Containers may be Shipped as (check reportable quantities):**

UN1263, PAINT, 3, PG III, (ERG#128)

**Canada (TDG)**

May be Classed as a Combustible Liquid for Canadian Ground.
UN1263, PAINT, 3, PG III, (ERG#128)

**IMO**

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, 3, PG III, (38 C c.c.), EmS F-E, S-E

**IMO**

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, 3, PG III, (38 C c.c.), EmS F-E, S-E

**IATA/ICAO**

UN1263, PAINT, 3, PG III

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 0.1 | |

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

**PLASKOLITE, INC.**
1770 Joyce Avenue
Columbus, OH 43219

**EMERGENCY HOTLINE:**
(614) 294-3281

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

| | |
|---|---|
| Material: | Plaskolite DURAPLEX® Impact Modified Acrylic Plastic (includes DURAPLEX® Impact Modified Acrylic Sheet, Run-to-Size DURAPLEX® Acrylic Sheet, Roll Stock DURAPLEX® Acrylic Sheet) |
| Chemical Name or Synonyms: | Polymethyl methacrylate |

## 2. PRODUCT COMPONENTS

| COMPONENTS | CAS REG. NO. | WEIGHT (%) |
|---|---|---|
| 1. Polymethyl methacrylate (PMMA) | 9010-88-2 | 93.5 (MAX) |
| 2. Poly(methyl methacrylate/ butyl acrylate/styrene) (PMMA/BA/S) | 27136-15-8 | 6.0 (MIN) |
| 3. Methyl methacrylate (MMA) | 80-62-6 | 0.5 (MAX) |

## 3. PHYSICAL PROPERTIES

| | |
|---|---|
| Appearance: | Clear to opaque solid |
| Odor: | N/A |
| Viscosity: | N/A |
| Melting Point: | 150°C/300°F |
| Boiling Point: | N/A |
| Vapor Pressure: | N/A |
| Vapor Density: | N/A (Air =1) |
| Specific Gravity: | 1.15 - 1.18 (Water =1) |
| pH: | N/A |
| Solubility in Water: | Negligible |
| Volatility: | Negligible (Weight %) |
| Evaporation Rate: | Negligible (Butyl Acetate = 1) |

## 4. FIRE AND EXPLOSION HAZARD INFORMATION

| | |
|---|---|
| Flash Point: | N/A |
| Auto Ignition Temperature: | 445°C/833°F to 495°C/920°F |
| Upper Explosion Limit (%): | N/A |
| Lower Explosion Limit (%): | N/A |
| Extinguishing Media: | Carbon dioxide, dry chemical, or water. |
| Fire Protection Equipment: | Wear self-contained, positive pressure breathing apparatus (MSHA/NIOSH approved, or equivalent) and full protective gear. |

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Unusual Fire and Explosion Hazard: Product is combustible thermoplastic material that burns vigorously with intense heat.

## 5. WORKPLACE EXPOSURE LIMITS

| COMPONENTS | | OSHA PEL | OSHA STEL | ACGIH TLV | ACGIH STEL |
|---|---|---|---|---|---|
| 1. | PMMA | None | None | None | None |
| 2. | PMMA/BA/S | None | None | None | None |
| 3. | MMA | 100 ppm | None | 50 ppm | 100 ppm |
| 4. | Nuisance dusts (as inhalable particles not otherwise specified) | 5 $mg/m^3$ | None | 10 $mg/m^3$ | None |

MMA: 100 ppm = 410 $mg/m^3$

## 6. HAZARD INFORMATION

Hazard Scale: 0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

Health Designation: 1
Fire Designation: 1
Reactivity Designation: 0

Inhalation: Inhalation of vapors from heated product can cause nausea, headache, dizziness as well as irritation of lungs, nose, and throat.
Eye Contact: Vapors from heated product can irritate the eyes.
Ingestion: Low hazard associated with normal conditions.
Skin Contact: Possible skin irritation. Contact with molten material can result in burns.
Carcinogenicity: N/A

## 7. EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Move subject to fresh air.
Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion: This material is not expected to be absorbed within the gastrointestinal tract, so induction of vomiting should not be necessary.

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| | |
|---|---|
| Skin Contact: | If molten material contacts skin, cool rapidly with cold water and obtain medical attention for thermal burn. |

## 8. REACTIVITY INFORMATION

| | |
|---|---|
| Stability: | Stable |
| Conditions to Avoid: | Temperatures over 300°C/570°F. |
| Hazardous Decomposition Products: | Thermal decomposition or combustion may emit vapors, carbon monoxide, or carbon dioxide. |
| Incompatible Compounds: | Acids, bases, and strong oxidizing agents. |

## 9. SPILL OR LEAK INFORMATION

Sweep or scoop up and remove.

## 10. WASTE DISPOSAL

Landfill or incinerate at a facility that complies with local, state and federal regulations.

## 11. EXPOSURE CONTROLS/PERSONAL PROTECTION MEASURES

| | |
|---|---|
| Respiratory Protection: | None required under normal conditions. See Section 12. |
| Hand Protection: | Canvas or cotton gloves. |
| Eye Protection: | Safety glasses with side shields (ANSI Z87.1 equivalent). |
| Other Protection: | N/A |
| Ventilation: | Local exhaust ventilation systems should be constructed and installed in accordance with ANSI Z9.2 or ACGIH guidelines to control potential emissions near the source. |

## 12. STORAGE AND HANDLING INFORMATION

| | |
|---|---|
| Maximum Storage Temperature: | 99°C/210°F (softening temperature). |
| Storage Measures: | If material is stored under ambient temperature conditions, it is not hazardous. However, extensive storing at higher than the maximum temperature will emit vapors, carbon monoxide or carbon dioxide. |
| Handling Measures: | Processing of the material under high temperatures will cause hazardous emissions of vapors, carbon monoxide or carbon dioxide. Blower collecting and local exhaust ventilation systems should be installed to prevent contaminant dispersion into the air. Sawing of this product generates particulates regulated as “inert” |

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or “nuisance” dusts. To minimize dust emissions, engineering controls should be employed, such as baghouse filters and cyclone separators.

## 13. REGULATORY INFORMATION

Environment

| | |
|---|---|
| Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): | Under section 102(a) of the Act, this product is NOT designated as hazardous. In addition, no reportable quantities and no notification requirements to the National Response Center in Washington, DC are set forth for its release from a vessel, an offshore or an onshore facility (40 CFR Part 302). |
| Resource Conservation and Recovery Ace (RCRA): | When this product becomes a waste, it is identified as solid but NOT hazardous waste under RCRA criteria (40 CFR Part 261). |
| Toxic Substances Control Act (TSCA): | The components of this product are on the TSCA inventory list. Any impurities present in this product are exempt from listing. |
| Superfund Amendment and Reauthorization Act of 1986 (SARA) Title III: | This product may be considered an immediate (acute) health hazard due to potential MMA emissions. However, reporting of thresholds for the material is not required because the concentration of its MMA component is below the de minimis concentration (40 CFR Part 370). |

Transportation

| | |
|---|---|
| DOT Hazard Class: | Not regulated. |
| DOT Shipping Name: | N/A |

Labor Awareness

This product as supplied is non-hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). However, under processing conditions it may become a health hazard to employees because vapors and/or particulates could be released. See Section 12 for Storage and Handling Information.

## 14. GLOSSARY

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CFR | Code of Federal Regulations |

**PLASKOLITE, INC.**
1770 Joyce Avenue
Columbus, OH 43219

**EMERGENCY HOTLINE:**
(614) 294-3281

| | |
|---|---|
| DOT | United States Department of Transportation |
| $mg/m^3$ | milligrams per cubic meter(concentration) |
| MMA | Methyl methacrylate |
| MSHA | Mine Safety and Health Administration |
| N/A | Not Applicable or Not Available |
| NIOSH | National Institute for Occupational Safety and Health |
| OSHA | Occupational Safety and Health Administration (Department of Labor) |
| PEL | Permissible Exposure Limit (time-weighted average) |
| PMMA | Polymethyl methacrylate |
| PMMA/BA/S | Poly(methyl methacrylate/butyl acrylate/styrene) |
| ppm | parts per million (concentration) |
| STEL | Short-Term Exposure Limit (15-minute) |
| TLV | Threshold Limit Value (time-weighted average) |

The information presented herein is believed to be factual and reliable. It is offered in good faith, but without guarantee, since conditions and methods for the use of our products are beyond our control. We recommend that the prospective user determine the suitability of our products and these suggestions before adopting them on a commercial scale.

Please direct comments and questions to Plaskolite Environmental, Health and Safety

Filename: MSDS - Duraplex Impact Modified Acrylic Plastic.doc

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **Battery Cleaner**

**Other means of identification**

**Product code** 03176

**Recommended use** Battery cleaner

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** CRC Industries, Inc.

**Address** 885 Louis Dr.
Warminster, PA 18974 US

**Telephone**

**General Information** 215-674-4300

**Technical Assistance** 800-521-3168

**Customer Service** 800-272-4620

**24-Hour Emergency (CHEMTREC)** 800-424-9300 (US)
703-527-3887 (International)

**Website** www.crcindustries.com

## 2. Hazard(s) identification

**Physical hazards** Gases under pressure — Liquefied gas

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Warning

**Hazard statement** Contains gas under pressure; may explode if heated.

**Precautionary statement**

**Prevention** Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying.

**Response** Wash hands after handling.

**Storage** Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information**

Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Water | | 7732-18-5 | 80 - 90 |
| Liquefied Petroleum Gas | | 68476-86-8 | 5 - 10 |
| 2-Butoxyethanol | | 111-76-2 | 1 - 3 |

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

| | |
|---|---|
| **Inhalation** | If symptoms develop move victim to fresh air. Get medical attention if symptoms persist. |
| **Skin contact** | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| **Eye contact** | Rinse with water. Get medical attention if irritation develops and persists. |
| **Ingestion** | Call a POISON CENTER or doctor/physician. |
| **Most important symptoms/effects, acute and delayed** | Direct contact with eyes may cause temporary irritation. |
| **Indication of immediate medical attention and special treatment needed** | Provide general supportive measures and treat symptomatically. |
| **General information** | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Water. |
| **Unsuitable extinguishing media** | None known. |
| **Specific hazards arising from the chemical** | Contents under pressure. |
| **Special protective equipment and precautions for firefighters** | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| **Fire-fighting equipment/instructions** | In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |

## 6. Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| **Methods and materials for containment and cleaning up** | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |

## 7. Handling and storage

| | |
|---|---|
| **Precautions for safe handling** | Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Do not get this material in contact with skin. Avoid prolonged exposure. Wear appropriate personal protective equipment. Use only in well-ventilated areas. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Observe good industrial hygiene practices. For product usage instructions, please see the product label. |
| **Conditions for safe storage, including any incompatibilities** | Level 1 Aerosol.<br><br>Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | PEL | 240 mg/m3 |
| | | 50 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 24 mg/m3 |
| | | 5 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (BAA), with hydrolysis | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Exposure guidelines**

**US - California OELs: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

2-Butoxyethanol (CAS 111-76-2) Skin designation applies.

**US - Tennesse OELs: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US NIOSH Pocket Guide to Chemical Hazards: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear protective gloves such as nitrile.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Form** Aerosol.

**Color** Clear.

**Odor** Odorless.

**Odor threshold** Not available.

**pH** 8.5

**Melting point/freezing point** -103 °F (-75 °C) estimated

| | |
|---|---|
| **Initial boiling point and boiling range** | 212 °F (100 °C) estimated |
| **Flash point** | None (Closed Cup) |
| **Evaporation rate** | Slow. |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | 1.3 % estimated |
| **Flammability limit - upper (%)** | 10.6 % estimated |
| **Vapor pressure** | 268.5 hPa estimated |
| **Vapor density** | > 1 (air = 1) |
| **Relative density** | 1.04 |
| **Solubility (water)** | Soluble. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | 446 °F (230 °C) estimated |
| **Decomposition temperature** | Not available. |
| **Viscosity (kinematic)** | Not available. |
| **Percent volatile** | 94.2 % estimated |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Carbon oxides. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | Expected to be a low ingestion hazard. |
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Skin contact** | 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. |
| **Eye contact** | Direct contact with eyes may cause temporary irritation. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Direct contact with eyes may cause temporary irritation. |

**Information on toxicological effects**

**Acute toxicity** Not available.

| Product | Species | Test Results |
|---|---|---|
| Battery Cleaner | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 7723.0923 mg/kg estimated |
| *Inhalation* | | |
| LC50 | Rat | 15797.2334 mg/l, 4 hours estimated |
| | | 15797.2334 ppm, 4 hours estimated |
| *Oral* | | |
| LD50 | Rat | 16499.332 mg/kg estimated |

| Product | Species | Test Results |
|---|---|---|
| **Chronic** | | |
| *Inhalation* | | |
| LC50 | Rat | 83.1988 mg/l estimated |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

2-Butoxyethanol (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | | Species | Test Results |
|---|---|---|---|
| Battery Cleaner | | | |
| *Acute* | | | |
| Crustacea | EC50 | Daphnia | 54412.6953 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 53543.8477 mg/l, 96 hours estimated |

| Components | | Species | Test Results |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 1550 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | > 1000 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

2-Butoxyethanol 0.81, log Pow

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal of waste from residues / unused products** The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazardous waste code** Not regulated.

| | |
|---|---|
| **Contaminated packaging** | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Label(s)** | 2.2 |
| **Packing group** | Not applicable. |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Packaging exceptions** | 306 |
| **Packaging non bulk** | None |
| **Packaging bulk** | None |

**IATA**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | No. |
| **ERG Code** | 10L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Other information** | |
| **Passenger and cargo aircraft** | Allowed. |
| **Cargo aircraft only** | Allowed. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS, LIMITED QUANTITY |
| **Transport hazard class(es)** | |
| **Class** | 2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | Not available. |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**SARA 304 Emergency release notification**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

2-Butoxyethanol (CAS 111-76-2)

**CERCLA Hazardous Substance List (40 CFR 302.4)**

2-Butoxyethanol (CAS 111-76-2)

**CERCLA Hazardous Substances: Reportable quantity**

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Section 311/312 Hazard categories**
Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**US state regulations**

**US. New Jersey RTK - Substances: Listed substance**

2-Butoxyethanol (CAS 111-76-2)

**US. Massachusetts RTK - Substance List**

2-Butoxyethanol (CAS 111-76-2)

**US. Pennsylvania RTK - Hazardous Substances**

2-Butoxyethanol (CAS 111-76-2)

**US. Rhode Island RTK**

2-Butoxyethanol (CAS 111-76-2)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

1,4-Dioxane (CAS 123-91-1) Listed: January 1, 1988
Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

**Volatile organic compounds (VOC) regulations**

**EPA**

**VOC content (40 CFR 51.100(s))** 7.9 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

**State**

**Consumer products** Not regulated

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

| | |
|---|---|
| **Issue date** | 09-18-2013 |
| **Prepared by** | Allison Cho |
| **Version #** | 01 |
| **Further information** | CRC# 530B |
| **HMIS® ratings** | Health: 1*<br>Flammability: 0<br>Physical hazard: 0<br>Personal protection: B |
| **NFPA ratings** | Health: 1<br>Flammability: 0<br>Instability: 0 |
| **Disclaimer** | The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries. |

# SAFETY DATA SHEET

## INSTAPAK® SIMPLYTUFF™ COMPONENT "B"

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | INSTAPAK® SIMPLYTUFF™ COMPONENT "B" |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-77 |
| **Recommended Use:** | Component used for producing Instapak® polyurethane foam |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**
Causes serious eye irritation. Category 2A

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

**Signal Word:** **Warning**

**Hazard Statements:** Causes serious eye irritation.

**Precautionary statements:** Wash hands thoroughly after handling.
Wear eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Health hazards not otherwise classified (HHNOC) -** Not applicable
**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Alcohols, C9-11, ethoxylated | Proprietary | 5-20 |

Exact percentages and CAS numbers are being withheld as trade secret information.
Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** IF SWALLOWED: Call a poison center/doctor/ if you feel unwell. Rinse mouth.

**Most important symptoms/effects:**

**Eyes:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.

**Skin:** Non-irritating to skin.

**Inhalation:** No information available.

**Ingestion:** No information available.

**Immediate medical attention and special treatment needed:** Not applicable.
**Aggravated Medical Conditions:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Specific Methods:** No special methods required.

**Suitable Extinguishing Media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

**Specific Hazards:** Not applicable.

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 6. ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up:** Absorb spillages onto sand, earth or any suitable absorbent material. Shovel into open-top drums, open containers or thick mil plastic bags. Wash the spillage area with water. Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| Not applicable. | -- | -- | -- |

**Engineering Controls to Reduce Exposure:** No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment:**

| | |
|---|---|
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **Hand protection:** | Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. |
| **Skin and body protection:** | Appropriate footwear. |
| **Respiratory protection:** | Respiratory protection should not be needed under normal use and handling conditions. |
| **Hygiene measures:** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location. |

Refer to the “Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals” bulletin before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Light straw or amber
**Odor:** Slightly aromatic (musty)
**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** -20°F (-29°C)
**Boiling/condensation point:** 406°F (208°C)
**Flash point:** Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]
**Evaporation rate:** Not available
**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** Not available
**Vapor Density (Air = 1):** >1
**Relative Density:** 1.03 at 25°C
**Solubility in Water:** Soluble
**Partition coefficient: n- octanol/water:** Not available
**Auto-Ignition temperature:** Not available
**Decomposition temperature:** Not available
**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Stability:** Stable at room temperature.
**Possibility of Hazardous Reactions:** Not applicable.

**Hazardous Decomposition Products:** Exposure to fire or extreme heat may generate oxides of carbon and oxides of nitrogen.

**Materials to Avoid:** Contact with isocyanates unless mixed at the proper ratio.

**Conditions to Avoid:** Not applicable.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.
**Skin Contact**: Non-irritating to skin.
**Inhalation:** No information available.
**Ingestion:** No information available.
**Sensitization:** No information available.

**Numerical measures of toxicity:**
**ATE - Oral (mg/kg)** Not available

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| Not applicable | -- | -- | -- |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available.

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

**Mobility in Soil:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs.) | Section 302 TPQ (lbs.) | Section 313 |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**
**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Instability:** | 0 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## 16. OTHER INFORMATION

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-77

**Reason for revision:** Not applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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Sealed Air
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10 Old Sherman Turnpike
Danbury, CT 06810
203-791-3500 Fax: 203-791-3618

# MATERIAL SAFETY DATA SHEET



**EMERGENCY NUMBERS:**

Sealed Air Corporation (US): (203) 791-3500 *For emergency and general information*
8:30am-5:00pm, (Eastern Time) Monday-Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

## SECTION 1 - IDENTIFICATION

| | |
|---|---|
| Product Name: | INSTAPAK QUICK® COMPONENT "A" |
| Chemical Name: | Polymethylene Polyphenylisocyanate |
| Trade Name: | Polymeric MDI |
| Chemical Family: | Aromatic Isocyanates |
| CAS No.: | 9016-87-9 |
| Manufacturer: | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810 |

## SECTION 2 – HAZARD(S) IDENTIFICATION

***EMERGENCY OVERVIEW***

Health Hazards: Irritating to skin, respiratory system and eyes. Repeated inhalation of aerosols at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be immediate or delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should not be exposed to any mixture containing unreacted MDI. Respiratory sensitizer. Skin sensitizer.

Medical Conditions Aggravated by Exposure: Respiratory disorders, asthma, skin allergies and eczema.

Physical Hazards: Closed containers may rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Appearance: Dark brown liquid with slightly aromatic or musty odor.

**Note:** Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

## SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Components: | CAS No. | Wt.% | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|---|
| Polymeric Diphenylmethane Diisocyanate (polymeric MDI or PMDI) | 9016-87-9 | 100 | Not Listed | Not Listed |
| Contains: | | | | |
| 4,4'-Diphenylmethane diisocyanate (4,4'-MDI; approx. 55% ) | 101-68-8 | | 0.02 ppm (Ceiling) | 0.005 ppm (TWA) |
| Other MDI isomers and oligomers | Not Listed | | Not Listed | Not Listed |

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

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## SECTION 4 - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with copious amounts of water for a minimum of 15 minutes, holding lids open with fingers. If irritation persists, repeat flushing. Refer individual to a physician for immediate follow-up.

Skin Contact: Remove contaminated clothing and/or shoes. Immediately wash affected area thoroughly with soap and water. Some organic materials such as corn oil or propylene glycol can aid in the removal of PMDI from the skin when applied immediately. Contaminated clothing should be thoroughly cleaned before reuse. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.

Inhalation: Remove patient from further exposure and obtain medical attention. Treatment is symptomatic for primary irritation or difficulty in breathing. If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing. Asthmatic-like symptoms, if manifested, may develop immediately, or be delayed for up to several hours.

Ingestion: Do NOT induce vomiting. Provided the patient is conscious, wash mouth out with water. Refer person to medical personnel for immediate attention.

**Note to Physicians**: Symptomatic and supportive therapy as indicated. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

## SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: 390°F (199°C) [Pensky-Martens Closed Cup]
Flammable Limits (lower): Not available
Flammable Limits (upper): Not available

Extinguishing Media: Water, carbon dioxide ($CO_2$), dry chemical, or appropriate foam. If water is used, large quantities are required. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers.

Fire Fighting Procedures: Firefighters should wear NFPA compliant protective equipment including a self-contained breathing apparatus, helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate should be avoided.

Fire and Explosion Hazards: Pouches containing chemical may burst under intense heat or pressure. Due to reaction with water, a hazardous build-up of pressure could result if pouches contaminated with moisture are placed in a sealed container.

NFPA Hazard Code:

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Reactivity | 1 |
| Special Hazard | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clear the area surrounding the spilled material and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material), or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags, and treat with deactivating solution (90% water, 8% concentrated ammonia, 2% detergent). Allow to stand uncovered for 48-72 hours to permit carbon dioxide to escape and solidification to occur. Wash spill area with deactivating solution and let stand for 30 minutes or longer. Dispose of absorbed and neutralized material properly.

## SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 50°F (10°C) Max. 100°F (38°C).

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: Reacts with moisture to produce carbon dioxide gas.

Precautions to be Taken in Handling and Storage: Do not store product uncovered outdoors. Do not place pouches contaminated with moisture in a sealed container. Do not breathe vapors or allow skin contact. To prevent possible leakage from pouches, do not store heavy items on top of this product.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: OSHA-PEL: 4,4'-Diphenylmethane diisocyanate; Ceiling = 0.02 ppm
ACGIH-TLV: 4,4'-Diphenylmethane diisocyanate; TWA = 0.005 ppm

HMIS Hazard Code:

| | |
|---|---|
| Health | 2* |
| Flammability | 1 |
| Reactivity | 1 |
| PPE | B |

(**P**ersonal **P**rotective **E**quipment) (B= safety glasses and gloves)

0=Minimal 1=Slight 2=Moderate 3=High 4=Severe *=chronic health hazard

Exposure Guidelines: Medical supervision of employees who come into contact with respiratory sensitizers is recommended. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted. Avoid inhalation of mists and vapors. Avoid skin contact.

Respiratory Protection: Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.

Eye Protection: Safety glasses with side shields or goggles.

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## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Use local exhaust ventilation if necessary to maintain levels below the PEL. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station, safety shower, and deactivating solution (see Section 6) should be available. Refer to the "Instapak Quick® User's Guide" for additional information.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Dark brown
Odor: Slightly aromatic (musty)
Vapor Density (Air = 1): 8.5
Molecular Weight: Approx. 350
Melting Point: Not established.

Boiling Point: 406°F (208°C)
Vapor Pressure: $< 10^{-5}$ mm Hg at 25°C (for Polymeric MDI)
Specific Gravity: 1.24 at 25°C
Bulk Density: 10.3 lbs/gal
% Volatile by Volume: Nil
Solubility in Water: Not soluble. Reacts slowly to liberate $CO_2$ gas.

## SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions. Avoid temperatures above 110°F (43°C) or below 40°F (4°C).

Polymerization: May occur at elevated temperatures in the presence of moisture, alkalies, tertiary amines and metal compounds.

Conditions to Avoid: Contact with moisture and other materials that contain active hydrogen.

Incompatible Materials: Water, amines, strong bases, copper alloys and alcohols. The reaction with water is slow at temperatures less than 120°F (49°C) but is accelerated at higher temperatures.

Hazardous Decomposition Products: Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

## SECTION 11 - TOXICOLOGICAL INFORMATION

| Toxicity Data: | | |
|---|---|---|
| | $LD_{50}$ Oral: | >2,000 mg/kg (rat) for polymeric MDI |
| | $LD_{50}$ Dermal: | >10,000 mg/kg (rabbit) for monomeric MDI |
| | $LC_{50}$ Inhalation: | >2,240 mg/$m^3$/1 hour (rat) for an aerosol of monomeric MDI |
| | | 370-490 mg/$m^3$/4 hour (rat) for polymeric MDI |

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, due to the low vapor pressure, overexposure is not expected under normal conditions unless material is heated or used in a poorly ventilated area.

Inhalation: This product is a respiratory irritant and respiratory sensitizer. Inhalation of vapor or aerosol at levels above the occupational exposure limit can cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat, and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of respiratory symptoms may be delayed for several hours after exposure.

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## SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should be removed from any further exposure. Persons with asthma-type conditions or other chronic respiratory diseases should be excluded from working with MDI. Like many other non-specific asthmatic responses, there are reports that a sensitized individual can experience symptoms upon exposure to dust, cold air or other irritants. In a single evaluation of 5 men occupationally exposed to MDI and hydrocarbon solvent vapors under conditions where adequate ventilation or other safety precautions were not used, neuropsychologic findings were attributed to MDI.

Skin Contact: Skin irritant and sensitizer. May cause irritation or rash. Can cause skin discoloration. Repeated and/or prolonged contact may result in skin sensitization. Individuals who have skin sensitization can develop symptoms (e.g., reddening swelling, rash) from contact with liquid or vapors. There is limited evidence from laboratory tests that skin contact may play a role in respiratory sensitization. This data reinforces the need to prevent direct skin contact and the importance of protective gloves.

Eye Contact: Liquid can cause eye irritation, tearing, reddening and swelling. Permanent corneal injury is unlikely. Exposure to MDI vapors in excess of 0.02 ppm may cause irritation.

Ingestion: Ingestion is unlikely. Based on the acute oral $LD_{50}$, this product is considered practically non-toxic by ingestion. Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.

Chronic Effects: A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol either at concentrations of 0, 0.2, 1, or 6 $mg/m^3$. No adverse effects were observed at 0.2 $mg/m^3$ concentrations. At the 1 $mg/m^3$ concentration, minimal nasal and lung irritant effects were seen. Only at the highest concentration (6 $mg/m^3$) was there an increased incidence of benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. The dose that produced this effect (1.2 ppm) is 60 times higher than the OSHA-PEL. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational exposure limits.

## SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate and Distribution: It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

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## SECTION 12 - ECOLOGICAL INFORMATION (continued)

Persistence and Degradation: Immiscible with water, but will react with water to produce carbon dioxide, and inert and non-biodegradable solids.

Aquatic Toxicity:

$LC_{50}$: >1,000 mg/1 (Zebra fish, 96 hrs)
$LC_{50}$: >3,000mg/l (Killifish, 96 hrs)
$EC_{50}$ >1,000 mg/1 (Daphnea magna, 24 hrs)
$EC_{50}$: >100 mg/1 (Activated sludge microorganisms, 3 hrs)

## SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when disposed of in its purchased form. Small quantities should be treated with deactivation solution outlined in Section 6. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

## SECTION 14 - TRANSPORT INFORMATION

DOT: Single containers less than 5,000 pounds are not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): 5,000 lbs. for Methylene diphenyl diisocyanate (4,4'-MDI), CAS #101-68-8 (≈ 55% of product).

## SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard
Delayed (chronic) Health Hazard

SARA 313 Listed Ingredients: This product contains the following chemicals subject to reporting requirements: 100% Diisocyanate compounds (Category Code N120).

This product contains a trace (ppm) amount of monochlorobenzene (CAS# 108-90-7) as an impurity.

## SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Massachusetts Right-to-Know, New Jersey Right-to-Know, Pennsylvania Right-to-Know [Methylene bisphenyl isocyanate (4,4'-MDI), CAS#101-68-8].

To the best of our knowledge, this product does not contain any of the listed chemicals which the state of California has found to cause cancer, birth defects or other reproductive harm.

Section(s) Revised: Section 1 and 2 headings revised.

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# MATERIAL SAFETY DATA SHEET



**EMERGENCY NUMBERS:**

Sealed Air Corporation (US): (203) 791-3500 *For emergency and general information*
8:30am-5:00pm, (Eastern Time), Monday-Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

## SECTION 1 - IDENTIFICATION

Product Name: INSTAPAK QUICK® COMPONENT "B"
Chemical Name: Polyol
Product Description: Polyether Polyol Resin Mixture

Manufacturer: Sealed Air Corporation (US)
10 Old Sherman Turnpike
Danbury, CT 06810

## SECTION 2 – HAZARD(S) IDENTIFICATION

***EMERGENCY OVERVIEW***

Health Hazards: Irritating to eyes and skin. Inhalation may result in irritation.

Physical Hazards: No immediate hazard.

Medical Conditions Aggravated by Exposure: None known.

Appearance: Liquid can be a straw to amber color and have a clear to cloudy appearance. A slight amine odor may be present.

**Note:** Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

## SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Components | CAS No. | Wt. % | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|---|
| Amine Catalyst | Proprietary | 2-4 | Not Established | Not Established |

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

## SECTION 4 - FIRST AID MEASURES

Eye Contact: Flush with copious amounts of water for at least 15 minutes, holding lids open with fingers.

Skin Contact: Wash area thoroughly with soap and water. Launder contaminated clothing before reuse.

Inhalation: Remove patient from further exposure and obtain medical attention. Administer oxygen if necessary.

Ingestion: Drink water to dilute and obtain medical attention.

**Note to Physicians:** Symptomatic and supportive care as indicated.

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## SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]
Flammable limits (lower): Not applicable.
Flammable limits (upper): Not applicable.

Extinguishing Media: Carbon dioxide ($CO_2$), chemical foam, dry chemical, water spray.

Fire Fighting Procedures: Firefighters should wear NFPA compliant protective equipment including a self-contained breathing apparatus, helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse.

Fire and Explosion Hazards: Pouches containing chemical may burst under intense heat or pressure.

NFPA Hazard Code:

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Reactivity | 0 |
| Special Hazard | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clear the area surrounding the spilled material and prevent further leakage, spillage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material) or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags. Dispose of spilled material according to federal, state and local regulations.

## SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 35°F (2°C) Max. 110°F (43°C)

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: None.

Precautions to be Taken in Handling and Storage: To prevent possible leakage from pouches, do not store heavy items on top of this product.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: OSHA-PEL: Not Established
ACGIH-TLV: Not Established

HMIS Hazard Code:

| | |
|---|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |
| PPE | B |

(**P**ersonal **P**rotective **E**quipment) (B= safety glasses and gloves)

0=Minimal 1=Slight 2=Moderate 3=High 4=Severe

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## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Respiratory Protection: The use of respiratory protection should not be needed under normal use and handling conditions. If protection is chosen, an air purifying respirator, equipped with organic vapor cartridges, is appropriate.

Eye Protection: Safety glasses with side shields or goggles.

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Good general ventilation. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station and safety shower should be available. Refer to the "Instapak Quick® User's Guide" for additional information.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Light straw or amber
Odor: Slight amine
Vapor Density (Air = 1): > 1
Molecular Weight: Not applicable
Melting Point: -20°F (-29°C)
Boiling Point: >201°F (94°C)
Vapor Pressure: Not established (low)
Specific Gravity: 1.03 at 25°C
Bulk Density: 8.6 lbs/gal
% Volatile by Volume: Nil
Solubility in Water: Soluble

## SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable.

Polymerization: Will not occur.

Conditions to Avoid: None.

Incompatible Materials: Contact with isocyanates, unless mixed at the proper ratio, should not occur.

Hazardous Decomposition Products: By fire or extreme heat, oxides of carbon and nitrogen.

## SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Data:
$LD_{50}$ Oral: Not Established
$LD_{50}$ Dermal: Not Established
$LC_{50}$ Inhalation: Not Established

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, overexposure is not expected under normal conditions.

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## SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

Inhalation: Vapors may be irritating if hot.

Skin Contact: Repeated contact may be irritating.

Eye Contact: Can cause eye irritation. Permanent corneal injury is unlikely.

Ingestion: Ingestion is unlikely. Large quantities could cause irritation of mouth and stomach.

Chronic Effects: No applicable data.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: No applicable data.

Reproductive Effects: No applicable data.

Teratogenicity and Fetotoxicity: No applicable data.

## SECTION 12 - ECOLOGICAL INFORMATION

No applicable data for this section.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when discarded in its purchased form. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

## SECTION 14 - TRANSPORT INFORMATION

DOT: Not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): Not applicable.

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## SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None.

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard.

SARA 313 Listed Ingredient(s): None.

## SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Substances used to manufacture this product do not require listing under Massachusetts, New Jersey or Pennsylvania Right-to-Know regulations.

To the best of our knowledge, this product does not contain any of the listed chemicals which the state of California has found to cause cancer, birth defects or other reproductive harm.

Section(s) Revised: Section 1 and 2 headings revised.

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

Sealed Air

# SAFETY DATA SHEET

Instapak Quick® Tuff RT B

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : Instapak Quick® Tuff RT B

**Product description** : Liquid polyurethane resin mixture for the production of Instapak® polyurethane packaging foam.

**Product type** : Liquid.

**Other means of identification** : Not available.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Product use** : Liquid polyurethane resin mixture for the production of Instapak® polyurethane packaging foam.

**Area of application** : Industrial applications.

### 1.3 Details of the supplier of the safety data sheet

Sealed Air B.V.
Lindenhoutseweg 45
6545 AH Nijmegen,
Nederland
Tel.: +31 (0)24 3710111

To contact Sealed Air with your Environmental, Health and Safety questions please either:

**e-mail address of person responsible for this SDS** : EHSinstapak@sealedair.com

**National contact**

Sealed Air Limited,
Telford Way, Kettering, Northants NN16 8UN England,
Telephone: 01536 315700
Fax: 01536 410576

### 1.4 Emergency telephone number

**Supplier**

**Telephone number** : +31(0) 24 37 10 164 (9.00 - 17.00 CET)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Directive 1999/45/EC [DPD]**

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Xi; R36

**Human health hazards** : Irritating to eyes.

See section 16 for the full text of the R-phrases declared above

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

## SECTION 2: Hazards identification

**Hazard symbol or symbols** :

**Indication of danger** : Irritant

**Risk phrases** : R36- Irritating to eyes.

**Safety phrases** : Not applicable.

**Hazardous ingredients** : Not applicable.

**Supplemental label elements** : Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** : Not available.

## SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mixture

| Product/ingredient name | Identifiers | % | Classification 67/548/EEC | Type |
|---|---|---|---|---|
| Alkyl(C9-11) alcohol, ethoxylated | CAS: 68439-46-3 | 7-10 | Xn; R22<br>Xi; R41<br>**See section 16 for the full text of the R-phrases declared above** | [1] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## SECTION 4: First aid measures

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### 4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

**Eye contact** : Irritating to eyes.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use dry chemical, $CO_2$, water spray (fog) or foam.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## SECTION 5: Firefighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## SECTION 7: Handling and storage

**7.2 Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 10 to 40°C (50 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**7.3 Specific end use(s)**

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance.

**8.1 Control parameters**

**Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs available.

**8.2 Exposure controls**

**Appropriate engineering controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. <1 hours (breakthrough time): nitrile rubber, neoprene, butyl rubber, PVC, Viton®

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## SECTION 8: Exposure controls/personal protection

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Colour** : Straw.
Amber. [Light]

**Odour** : Amine-like. [Slight]

**Odour threshold** : Not available.

**pH** : Not available.

**Melting point/freezing point** : -29°C

**Initial boiling point and boiling range** : 94°C

**Flash point** : Not available.

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Burning time** : Not applicable.

**Burning rate** : Not applicable.

**Upper/lower flammability or explosive limits** : Not available.

**Vapour pressure** : Not available.

**Vapour density** : >1 [Air = 1]

**Relative density** : Not available.

**Solubility(ies)** : Easily soluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable. Store between the following temperatures: 10°C and 40°C.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Heat and open flames.

**10.5 Incompatible materials** : Highly reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and alkalis.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Alkyl(C9-11) alcohol, ethoxylated | LD50 Dermal | Rabbit | >2 g/kg | - |
| | LD50 Oral | Rat | 1378 mg/kg | - |

**Conclusion/Summary** : No known significant effects or critical hazards.

**Irritation/Corrosion**

**Conclusion/Summary** : Not available.

**Sensitiser**

**Conclusion/Summary** : Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated:Oral, Dermal, Inhalation.

**Potential acute health effects**

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Eye contact** : Irritating to eyes.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : No specific data.

**Ingestion** : No specific data.

**Skin contact** : No specific data.

**Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

## SECTION 11: Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

Not available.

**Conclusion/Summary** : No known significant effects or critical hazards.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Alkyl(C9-11) alcohol, ethoxylated | Acute EC50 2686 ug/L Fresh water<br><br>Acute LC50 8500 ug/L Fresh water | Daphnia - Daphnia magna - Neonate - <24 hours<br>Fish - Pimephales promelas | 48 hours<br><br>96 hours |

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Alkyl(C9-11) alcohol, ethoxylated | - | >60 % - Readily - 28 days | - | - |

**Conclusion/Summary** : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Alkyl(C9-11) alcohol, ethoxylated | - | - | Readily |

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

### 13.1 Waste treatment methods

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)**

| Waste code | Waste designation |
|---|---|
| 16 03 05*<br>15 01 10* | organic wastes containing dangerous substances<br>packaging containing residues of or contaminated by dangerous substances |

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | ADN/ADNR | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **14.2 UN proper shipping name** | - | - | - | - |
| **14.3 Transport hazard class(es)** | - | - | - | - |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |
| **14.6 Special precautions for user** | Not available. | Not available. | Not available. | Not available. |
| **Additional information** | - | - | - | - |

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other EU regulations**

**Europe inventory** : Not determined.

**Black List Chemicals** : Not listed

**Priority List Chemicals** : Not listed

**Integrated pollution prevention and control list (IPPC) - Air** : Not listed

**Integrated pollution prevention and control list (IPPC) - Water** : Not listed

**International regulations**

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

**Full text of abbreviated R phrases** : R22- Harmful if swallowed.
R41- Risk of serious damage to eyes.
R36- Irritating to eyes.

**Full text of classifications [DSD/DPD]** : Xn - Harmful
Xi - Irritant

**Date of issue/ Date of revision** : 14 June 2012

**Date of previous issue** : 25-06-2010

**Version** : 2.02

**Notice to reader**

## SECTION 16: Other information

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# SAFETY DATA SHEET

## INSTAPAK® DISPENSER SOLUTION

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | **INSTAPAK® DISPENSER SOLUTION** |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-58 |
| **Recommended Use:** | Liquid cleaning solution for use in Instapak® foam dispensing equipment |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**

Specific Target Organ Toxicity (Single Exposure) Catergory 3

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

**Signal Word:** **Warning**

**Hazard Statements:** May cause drowsiness or dizziness.

**Precautionary statements:** Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Call a POISON CENTER or doctor/ physician if you feel unwell. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Health hazards not otherwise classified (HHNOC) -** May cause dermatitis by defatting the skin from prolonged or repeated contact.

**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Tripropylene Glycol Monomethyl Ether | 25498-49-1 | > 99.0 |

Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** IF SWALLOWED: Call a poison center/doctor/ if you feel unwell. Rinse mouth.

**Most important symptoms/effects:**

**Eyes:** No information available.

**Skin:** No information available.

**Inhalation:** No information available.

**Ingestion:** This material may be a slight health hazard if ingested in large quantities. If large quantity swallowed, give lukewarm water (pint/ 1/2 liter) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk.

**Immediate medical attention and special treatment needed:** May cause drowsiness or dizziness. Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

**Aggravated Medical Conditions:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Specific Methods:** No special methods required.

**Suitable Extinguishing Media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

**Specific Hazards:** Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Fine sprays/mists may be combustible at temperatures below normal flash point.

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 6. ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up:** Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Prevent entry into waterways, sewers, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. This product will absorb water if exposed to air.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| Not applicable. | -- | -- | -- |

**Engineering Controls to Reduce Exposure:** No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment:**

| | |
|---|---|
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **Hand protection:** | Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. |
| **Skin and body protection:** | Appropriate footwear. |
| **Respiratory protection:** | Respiratory protection should not be needed under normal use and handling conditions. |
| **Hygiene measures:** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Take off contaminated clothing and wash before reuse. Ensure that eyewash stations are close to the workstation location. |

Refer to the “Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals” bulletin before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Colorless
**Odor:** Ether-like odor

**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** -108°F (-78°C)
**Boiling/condensation point:** 469°F (243°C)

**Flash point:** 255 °F (124 °C) Method: PMCC
**Evaporation rate:** <1

**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** 0.017 hPa (0.013 mm Hg) at 68°F (20°C)
**Vapor Density (Air = 1):** ~7.1 at 59 - 90°F (15 - 32°C)
**Relative Density:** 0.965 g/cm3 at 68°F (20°C)
**Solubility in Water:** Soluble
**Partition coefficient: n- octanol/water:** log Pow: 0.31 at 68°F (20°C)
**Auto-Ignition temperature:** 531°F (277°C)
**Decomposition temperature:** Not available

**Viscosity:** 5.53 mm2/s at 77°F (25°C) (static)

## 10. STABILITY AND REACTIVITY

**Reactivity**: Will not occur.

**Stability:** Stable at room temperature.

**Possibility of Hazardous Reactions:** Not applicable.

**Hazardous Decomposition Products:** Exposure to fire or extreme heat may generate oxides of carbon and oxides of nitrogen.

**Materials to Avoid:** Strong oxidizing agents. Moisture and humidity. May react with oxygen to form peroxides. However, there is no known evidence that it has nearly the peroxide forming potential as, for example, diethyl ether, etc.

**Conditions to Avoid:** Extended contact with air or oxygen. Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Ignition may occur at temperatures below those published in the literature as auto ignition or ignition temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** May cause slight transient eye irritation.
**Skin Contact**: Non-irritating to skin.
**Inhalation:** No information available.
**Ingestion:** May cause drowsiness or dizziness. Based on acute toxicity values, not classified. Ingestion of very large amounts may cause central nerve system depression, respiratory failure, and death in cases of severe over-exposure.
**Sensitization:** No information available.

**Numerical measures of toxicity:**

| | |
|---|---|
| **$LD_{50}$ Oral:** | 3,400 mg/kg (rat) |
| **$LD_{50}$ Dermal:** | 15,400 mg/kg (rabbit) |
| **$LC_{50}$ Inhalation:** | > 30 ppm, 8 hours (rat) |

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| Not applicable | -- | -- | -- |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Based on acute aquatic toxicity values, not classified.

**Persistence and Degradability**: 60 % rapidly degradable (after 22 days in a ready biodegradability test).
**Bioaccumulation:** Bioconcentration factor (BCF): 3.16, Method: (QSAR calculated value). This material is not expected to bioaccumulate.

**Mobility in Soil:** No information available. Low absorption to soil particulates predicted.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

## 13. DISPOSAL CONSIDERATIONS

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs) | Section 302 TPQ (lbs) | Section 313 |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | -- |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**
**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 1 |
| **Flammability:** | 1 |
| **Instability:** | 0 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## 16. OTHER INFORMATION

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-58

**Reason for revision:** Not applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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# SAFETY DATA SHEET

## INSTAPAK® QUICK RT® COMPONENT "A"

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | INSTAPAK® QUICK RT® COMPONENT "A" |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-65 |
| **Recommended Use:** | Component used for producing Instapak® polyurethane foam |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**

| | |
|---|---|
| Acute Toxicity: Inhalation | Category 4 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/ Eye Irritation | Category 2B |
| Respiratory Sensitization | Category 1 |
| Skin Sensitization | Category 1 |
| Specific Target Organ Toxicity (Single Exposure) [Respiratory Tract Irritation] | Category 3 |

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

**Signal Word:** **Danger**

**Hazard Statements:**
Harmful if inhaled.
Causes skin and eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

**Precautionary statements:**
Wear chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

## 2. HAZARD(S) IDENTIFICATION

**Health hazards not otherwise classified (HHNOC) -** Not applicable
**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Polymeric Diphenylmethane Diisocyanate (Polymeric MDI or PMDI) | 9016-87-9 | 60-100 |
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | 30-60 |

Exact percentages and CAS numbers are being withheld as trade secret information.
Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin:** IF ON SKIN: After contact with skin, wash immediately with plenty of warm soapy water: Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. An MDI study has demonstrated that a poly glycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation:** IF INHALED: Move exposed person to fresh air. Get medical attention immediately. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel.

**Ingestion:** IF SWALLOWED: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

**Most important symptoms/effects:**

**Eyes:** Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

**Skin:** Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals.

**Inhalation:** Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC50 (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter < 5 microns.

**Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

## 4. FIRST-AID MEASURES

**Immediate medical attention and special treatment needed:** Symptomatic and supportive therapy as indicated. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

**Aggravated Medical Conditions:** Persons with pre-existing respiratory disorders may be more susceptible to irritating effects.

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Specific Methods:** | No special methods required. |
| **Suitable Extinguishing Media:** | Foam, carbon dioxide ($CO_2$) or dry powder. |
| **Specific Hazards:** | Containers with residual chemical may burst under intense heat or pressure. Due to reaction with water, a hazardous build-up of pressure could result if containers contaminated with moisture are sealed. |

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** Water may be used in large quantities. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers and keep fire exposed containers cool by spraying with water.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Methods and materials for containment and cleaning up:** Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Shovel into open-top drums, open containers or thick mil plastic bags for further decontamination. Wash the spillage area with water. Neutralize small spillages with decontaminant (5-10 % sodium carbonate, 0.2-2 % liquid detergent, water to make up to 100%). Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not use this product. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. Keep away from moisture. Due to reaction with water producing $CO_2$ gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Use appropriate containment to avoid environmental contamination.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate (MDI) | 101-68-8 | 0.02 ppm (Ceiling) | 0.005 ppm (TWA) |

**Engineering Controls to Reduce Exposure:** Use only with adequate ventilation. Use local exhaust ventilation if necessary to maintain levels below any recommended or statutory limits. Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Personnel with a history of asthma-type conditions, bronchitis or skin sensitization conditions should not work with MDI based products. The Occupational Exposure Limits listed do not apply to previously sensitized individuals. Sensitized individuals should be removed from any further exposure.

**Personal Protective Equipment:**

**Eye protection:** Safety glasses with side shields or goggles.

**Hand protection:** Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

**Skin and body protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed.

**Respiratory protection:** Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.

**Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location.

Refer to the “Instapak Quick® RT product User’s Guide” before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Dark brown
**Odor:** Slightly aromatic (musty)
**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** Not available

**Boiling/condensation point:** 406°F (208°C)
**Flash point:** 390°F (199°C) [Pensky-Martens Closed Cup]
**Evaporation rate:** Not available

**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** $<10^{-5}$ mm Hg at 25°C (PMDI)
**Vapor Density (Air = 1):** Not available
**Relative Density:** 1.24 at 25°C
**Solubility in Water:** Not soluble. Reacts slowly to liberate $CO_2$.
**Partition coefficient: n- octanol/water:** Not available
**Auto-Ignition temperature:** >600°C
**Decomposition temperature:** Not available
**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Stability:** Stable at room temperature.

**Possibility of Hazardous Reactions:** Reaction with water (moisture) produces $CO_2$ gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. PMDI is insoluble with and heavier than water and sinks to the bottom reacting slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating $CO_2$ gas.

**Hazardous Decomposition Products:** Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

**Materials to Avoid:** Water, amines, strong bases, copper alloys, acids and alcohols.

**Conditions to Avoid:** Avoid high temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

**Skin Contact**: Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including isocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

**Inhalation:** Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC50 (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter <5 microns.

**Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

**Sensitization:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Numerical measures of toxicity:**

| | |
|---|---|
| **$LD_{50}$ Oral:** | >10,000 mg/kg (rat) |
| **$LD_{50}$ Dermal:** | >9,400 mg/kg (rabbit) |
| **$LC_{50}$ Inhalation:** | 0.49 mg/l (rat) |
| **ATE - Inhalation (dusts and mists)** | 1.5 mg/l |

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 3* | -- | -- |
| Polymeric Diphenylmethane Diisocyanate | 3* | -- | -- |

*Not classifiable as to its carcinogenicity to humans

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

| Endpoint (Exposure) | Species | Result | Endpoint (Exposure) | Species | Result |
|---|---|---|---|---|---|
| EC50 (72 hours) | Algae | >1640 mg/l | LC50 96 hours | Fish | >1000 mg/l |
| EC50 (3 hours) | Bacteria | >100 mg/l | Chronic NOEC 21 days | Daphnia | >=10 mg/l |
| EC50 (24 hours) | Daphnia | >1000 mg/l | Chronic NOECr 72 hours | Algae | 1640 mg/l |
| LC0 96 hours | Fish | >1000 mg/l | | | |

**Persistence and Degradability:** Not biodegradable.

**Bioaccumulation:** Low potential.

**Mobility in Soil:** By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Single containers less than 5,000 pounds are not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | X | X | X | X |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs.) | Section 302 TPQ (lbs.) | Section 313 |
|---|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | 50-55 | 5,000 | None | Category Code N120 |
| Polymeric Diphenylmethane Diisocyanate | 9016-87-9 | 60-100 | -- | None | Category Code N120 |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | X | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | X |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**

**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Instability:** | 1 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-65

**Reason for revision:** Not Applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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# SAFETY DATA SHEET

## INSTAPAK® QUICK RT® COMPONENT "B"

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | INSTAPAK® QUICK RT® COMPONENT "B" |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-66 |
| **Recommended Use:** | Component used for producing Instapak® polyurethane foam |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**
Causes serious eye irritation. Category 2A

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

| | |
|---|---|
| **Signal Word:** | **Warning** |
| **Hazard Statements:** | Causes serious eye irritation. |
| **Precautionary statements:** | Wash hands thoroughly after handling.<br>Wear eye protection/face protection.<br><br>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |

**Health hazards not otherwise classified (HHNOC) -** Not applicable
**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Tertiary Amine(s) | Proprietary | 1-10 |

Exact percentages and CAS numbers are being withheld as trade secret information.
Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** IF SWALLOWED: Call a poison center/doctor/ if you feel unwell. Rinse mouth.

**Most important symptoms/effects:**

**Eyes:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.

**Skin:** Non-irritating to skin.

**Inhalation:** No information available.

**Ingestion:** No information available.

**Immediate medical attention and special treatment needed:** Not applicable.
**Aggravated Medical Conditions:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Specific Methods:** No special methods required.

**Suitable Extinguishing Media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

**Specific Hazards:** Not applicable.

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 6. ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up:** Absorb spillages onto sand, earth or any suitable absorbent material. Shovel into open-top drums, open containers or thick mil plastic bags. Wash the spillage area with water. Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| Not applicable. | -- | -- | -- |

**Engineering Controls to Reduce Exposure:** No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment:**

| | |
|---|---|
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **Hand protection:** | Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. |
| **Skin and body protection:** | Appropriate footwear. |
| **Respiratory protection:** | Respiratory protection should not be needed under normal use and handling conditions. |
| **Hygiene measures:** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location. |

Refer to the “Instapak Quick® RT product User’s Guide” before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Light straw or amber
**Odor:** Slightly aromatic (musty)
**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** <-3°F (<-20°C)
**Boiling/condensation point:** 406°F (208°C)
**Flash point:** Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]
**Evaporation rate:** Not available
**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** Not available
**Vapor Density (Air = 1):** >1
**Relative Density:** 1.055 at 25°C
**Solubility in Water:** Soluble
**Partition coefficient: n- octanol/water:** Not available
**Auto-Ignition temperature:** Not available
**Decomposition temperature:** Not available
**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Stability:** Stable at room temperature.
**Possibility of Hazardous Reactions:** Not applicable.

**Hazardous Decomposition Products:** Exposure to fire or extreme heat may generate oxides of carbon and oxides of nitrogen.

**Materials to Avoid:** Contact with isocyanates unless mixed at the proper ratio.

**Conditions to Avoid:** Not applicable.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.
**Skin Contact**: Non-irritating to skin.
**Inhalation:** No information available.
**Ingestion:** No information available.
**Sensitization:** No information available.

**Numerical measures of toxicity:**
**ATE - Oral (mg/kg)** Not available

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| Not applicable | -- | -- | -- |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available.

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

**Mobility in Soil:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs.) | Section 302 TPQ (lbs.) | Section 313 |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**
**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Instability:** | 0 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## 16. OTHER INFORMATION

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-66

**Reason for revision:** Not applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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**SAFETY DATA SHEET**

**INSTAPAK® QUICK TUFF® RT COMPONENT "A"**

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | INSTAPAK® QUICK TUFF® RT COMPONENT "A" |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-67 |
| **Recommended Use:** | Component used for producing Instapak® polyurethane foam |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**

| | |
|---|---|
| Acute Toxicity: Inhalation | Category 4 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/ Eye Irritation | Category 2B |
| Respiratory Sensitization | Category 1 |
| Skin Sensitization | Category 1 |
| Specific Target Organ Toxicity (Single Exposure) [Respiratory Tract Irritation] | Category 3 |

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

**Signal Word:** **Danger**

**Hazard Statements:**
Harmful if inhaled.
Causes skin and eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

**Precautionary statements:**
Wear chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

## 2. HAZARD(S) IDENTIFICATION

**Health hazards not otherwise classified (HHNOC) -** Not applicable
**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Polymeric Diphenylmethane Diisocyanate (Polymeric MDI or PMDI) | 9016-87-9 | 60-100 |
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | 30-60 |

Exact percentages and CAS numbers are being withheld as trade secret information.
Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin:** IF ON SKIN: After contact with skin, wash immediately with plenty of warm soapy water: Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. An MDI study has demonstrated that a poly glycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation:** IF INHALED: Move exposed person to fresh air. Get medical attention immediately. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel.

**Ingestion:** IF SWALLOWED: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

**Most important symptoms/effects:**

**Eyes:** Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

**Skin:** Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals.

**Inhalation:** Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC50 (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter < 5 microns.

**Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

## 4. FIRST-AID MEASURES

**Immediate medical attention and special treatment needed:** Symptomatic and supportive therapy as indicated. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

**Aggravated Medical Conditions:** Persons with pre-existing respiratory disorders may be more susceptible to irritating effects.

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Specific Methods:** | No special methods required. |
| **Suitable Extinguishing Media:** | Foam, carbon dioxide ($CO_2$) or dry powder. |
| **Specific Hazards:** | Containers with residual chemical may burst under intense heat or pressure. Due to reaction with water, a hazardous build-up of pressure could result if containers contaminated with moisture are sealed. |

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** Water may be used in large quantities. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers and keep fire exposed containers cool by spraying with water.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Methods and materials for containment and cleaning up:** Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Shovel into open-top drums, open containers or thick mil plastic bags for further decontamination. Wash the spillage area with water. Neutralize small spillages with decontaminant (5-10 % sodium carbonate, 0.2-2 % liquid detergent, water to make up to 100%). Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not use this product. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. Keep away from moisture. Due to reaction with water producing $CO_2$ gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Use appropriate containment to avoid environmental contamination.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate (MDI) | 101-68-8 | 0.02 ppm (Ceiling) | 0.005 ppm (TWA) |

**Engineering Controls to Reduce Exposure:** Use only with adequate ventilation. Use local exhaust ventilation if necessary to maintain levels below any recommended or statutory limits. Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Personnel with a history of asthma-type conditions, bronchitis or skin sensitization conditions should not work with MDI based products. The Occupational Exposure Limits listed do not apply to previously sensitized individuals. Sensitized individuals should be removed from any further exposure.

**Personal Protective Equipment:**

**Eye protection:** Safety glasses with side shields or goggles.

**Hand protection:** Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

**Skin and body protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed.

**Respiratory protection:** Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.

**Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location.

Refer to the “Instapak Quick® RT product User’s Guide” before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Dark brown
**Odor:** Slightly aromatic (musty)
**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** Not available

**Boiling/condensation point:** 406°F (208°C)
**Flash point:** 390°F (199°C) [Pensky-Martens Closed Cup]
**Evaporation rate:** Not available

**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** $<10^{-5}$ mm Hg at 25°C (PMDI)
**Vapor Density (Air = 1):** Not available
**Relative Density:** 1.24 at 25°C
**Solubility in Water:** Not soluble. Reacts slowly to liberate $CO_2$.
**Partition coefficient: n- octanol/water:** Not available
**Auto-Ignition temperature:** >600°C
**Decomposition temperature:** Not available
**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Stability:** Stable at room temperature.

**Possibility of Hazardous Reactions:** Reaction with water (moisture) produces $CO_2$ gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. PMDI is insoluble with and heavier than water and sinks to the bottom reacting slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating $CO_2$ gas.

**Hazardous Decomposition Products:** Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

**Materials to Avoid:** Water, amines, strong bases, copper alloys, acids and alcohols.

**Conditions to Avoid:** Avoid high temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

**Skin Contact**: Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including isocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

**Inhalation:** Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC50 (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter <5 microns.

**Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

**Sensitization:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Numerical measures of toxicity:**

| | |
|---|---|
| **$LD_{50}$ Oral:** | >10,000 mg/kg (rat) |
| **$LD_{50}$ Dermal:** | >9,400 mg/kg (rabbit) |
| **$LC_{50}$ Inhalation:** | 0.49 mg/l (rat) |
| **ATE - Inhalation (dusts and mists)** | 1.5 mg/l |

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 3* | -- | -- |
| Polymeric Diphenylmethane Diisocyanate | 3* | -- | -- |

*Not classifiable as to its carcinogenicity to humans

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

| Endpoint (Exposure) | Species | Result | Endpoint (Exposure) | Species | Result |
|---|---|---|---|---|---|
| EC50 (72 hours) | Algae | >1640 mg/l | LC50 96 hours | Fish | >1000 mg/l |
| EC50 (3 hours) | Bacteria | >100 mg/l | Chronic NOEC 21 days | Daphnia | >=10 mg/l |
| EC50 (24 hours) | Daphnia | >1000 mg/l | Chronic NOECr 72 hours | Algae | 1640 mg/l |
| LC0 96 hours | Fish | >1000 mg/l | | | |

**Persistence and Degradability:** Not biodegradable.

**Bioaccumulation:** Low potential.

**Mobility in Soil:** By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Single containers less than 5,000 pounds are not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | X | X | X | X |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs.) | Section 302 TPQ (lbs.) | Section 313 |
|---|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | 36 - 42 | 5,000 | None | Category Code N120 |
| Polymeric Diphenylmethane Diisocyanate | 9016-87-9 | 60-100 | -- | None | Category Code N120 |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| 4,4'-Diphenylmethane diisocyanate | 101-68-8 | X | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | X |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**

**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Instability:** | 1 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-67

**Reason for revision:** Not Applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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**SAFETY DATA SHEET**

**INSTAPAK® QUICK TUFF® RT COMPONENT "B"**

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | INSTAPAK® QUICK TUFF® RT COMPONENT "B" |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-68 |
| **Recommended Use:** | Component used for producing Instapak® polyurethane foam |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**
Causes serious eye irritation. Category 2A

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

| | |
|---|---|
| **Signal Word:** | **Warning** |
| **Hazard Statements:** | Causes serious eye irritation. |
| **Precautionary statements:** | Wash hands thoroughly after handling.<br>Wear eye protection/face protection.<br><br>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |

**Health hazards not otherwise classified (HHNOC) -** Not applicable
**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Alcohols, C9-11, ethylated | Proprietary | 5-20 |

Exact percentages and CAS numbers are being withheld as trade secret information.
Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** IF SWALLOWED: Call a poison center/doctor/ if you feel unwell. Rinse mouth.

**Most important symptoms/effects:**

**Eyes:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.

**Skin:** Non-irritating to skin.

**Inhalation:** No information available.

**Ingestion:** No information available.

**Immediate medical attention and special treatment needed:** Not applicable.
**Aggravated Medical Conditions:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Specific Methods:** No special methods required.

**Suitable Extinguishing Media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

**Specific Hazards:** Not applicable.

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 6. ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up:** Absorb spillages onto sand, earth or any suitable absorbent material. Shovel into open-top drums, open containers or thick mil plastic bags. Wash the spillage area with water. Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| Not applicable. | -- | -- | -- |

**Engineering Controls to Reduce Exposure:** No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment:**

| | |
|---|---|
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **Hand protection:** | Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. |
| **Skin and body protection:** | Appropriate footwear. |
| **Respiratory protection:** | Respiratory protection should not be needed under normal use and handling conditions. |
| **Hygiene measures:** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location. |

Refer to the “Instapak Quick® RT product User’s Guide” before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Light straw or amber
**Odor:** Slightly aromatic (musty)
**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** -20°F (-29°C)
**Boiling/condensation point:** 406°F (208°C)
**Flash point:** Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]
**Evaporation rate:** Not available

**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** Not available
**Vapor Density (Air = 1):** >1
**Relative Density:** 1.03 at 25°C
**Solubility in Water:** Soluble
**Partition coefficient: n- octanol/water:** Not available
**Auto-Ignition temperature:** Not available
**Decomposition temperature:** Not available
**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Stability:** Stable at room temperature.
**Possibility of Hazardous Reactions:** Not applicable.

**Hazardous Decomposition Products:** Exposure to fire or extreme heat may generate oxides of carbon and oxides of nitrogen.

**Materials to Avoid:** Contact with isocyanates unless mixed at the proper ratio.

**Conditions to Avoid:** Not applicable.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** Causes serious eye irritation. Adverse symptoms may include irritation, watering, and redness.
**Skin Contact**: Non-irritating to skin.
**Inhalation:** No information available.
**Ingestion:** No information available.
**Sensitization:** No information available.

**Numerical measures of toxicity:**
**ATE - Oral (mg/kg)** Not available

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| Not applicable | -- | -- | -- |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available.

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

**Mobility in Soil:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs.) | Section 302 TPQ (lbs.) | Section 313 |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | X |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**
**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 2 |
| **Flammability:** | 1 |
| **Instability:** | 0 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## 16. OTHER INFORMATION

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-68

**Reason for revision:** Not applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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Custom Building Products - Interior Spackling Paste

CUSTOM BUILDING PRODUCTS INC -- INTERIOR SPACKLING PASTE -- 8010-00N079258

========== Product Identification ==========

Product ID:INTERIOR SPACKLING PASTE
MSDS Date:05/02/1995
FSC:8010
NIIN:00N079258
MSDS Number: CGGYH
=== Responsible Party ===
Company Name:CUSTOM BUILDING PRODUCTS INC
Address:6511 SALT LAKE AVE
City:BELL
State:CA
ZIP:90201
Country:US
Info Phone Num:213-582-0846
Emergency Phone Num:213-582-0846
Preparer's Name:STEVE TAYLOR
CAGE:CUSTO
=== Contractor Identification ===
Company Name:CUSTOM BUILDING PRODUCTS
Address:6511 SALT LAKE AVE.
City:BELL
State:CA
ZIP:90201
Country:US
Phone:213-582-0846
CAGE:CUSTO

========== Composition/Information on Ingredients ==========

Ingred Name:ETHYLENE GLYCOL (SARA 313) (CERCLA). VP:0.1 @ 68F.
LD50:(ORAL,RAT) 6,000-13,000 MG/KG.
CAS:107-21-1
RTECS #:KW2975000
OSHA PEL:N/K
ACGIH TLV:50 PPM, VAPOR, C
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:CALCIUM CARBONATE
CAS:1317-65-3
RTECS #:EV9580000
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:VM & P NAPHTHA; (ALIPHATIC HYDROCARBONS). VP:15 @ 68F.
CAS:64742-89-8
OSHA PEL:500 PPM (MFR)
ACGIH TLV:N/K

Ingred Name:ACRYLIC COPOLYMERS
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:SEE INGREDIENT 1.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE:INHALATION:VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE, THROAT AND LUNGS. SKIN CONTACT:IRRITATING UPON REPEATED OR PROLONGED CONTACT.

EYE CONTACT:SLIGHT (TEMPORARY) IRRIT ATION. CORNEAL INJURY IS UNLIKELY. SKINABSORPTION:REPEATED EXPOSURE TO LARGE QUANTITIES MAY RESULT IN (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:HLTH HAZ:ABSORPTION OF HARMFUL AMOUNTS. INGESTION:AMOUNTS INGESTED INCIDENTAL TO INDUSTRIAL HANDLING NOT LIKELY TO CAUSE INJURY; HOWEVER, INGESTION OF LARGER AMOUNTS COULD CAUSE SERIOUS INJURY, EVEN D EATH. CHRONIC:EXCESSIVE EXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM, KIDNEY, BLOOD & POSSIBLE LIVER EFFECTS.
Medical Cond Aggravated by Exposure:PRE-EXISTING SKIN, EYE & RESPIRATORY CONDITIONS MAY BE AGGRAVATED BY EXPOSURE TO ETHYLENE GLYCOL.

========== First Aid Measures ==========

First Aid:EYES:IMMEDIATELY FLUSH W/WATER FOR AT LEAST 15 MINUTES. SEE MD IF IRRITATION RESULTS. SKIN:WASH W/WATER. SEEK MEDICAL ATTENTION IF IRRITATION RESULTS. INHAL:REMOVE TO FRESH AIR. INGEST:IMMEDIATELY IND UCE VOMITING BY GIVING TWO GLASSES OF WATER & STICKING FINGER DOWN THROAT. CALL MD.

========== Fire Fighting Measures ==========

Flash Point:NONE
Extinguishing Media:FOAM, CO*2, DRY CHEMICAL, WATER FOG.
Fire Fighting Procedures:USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT . CLOSED CONTAINERS MAY RUPTURE IF EXPOSED TO EXTREME TEMPERATURES.
Unusual Fire/Explosion Hazard:MATERIAL CAN SPLATTER ABOVE 100C/212F. ACRYLIC POLYMER FILM CAN BURN & CONTAINERS MAY RUPTURE IF EXPOSED TO EXTREME TEMPERATURES.

========== Accidental Release Measures ==========

Spill Release Procedures:AVOID ENTRY INTO SEWERS OR NATURAL WATER WAYS. SMALL SPILLS:SOAK UP W/ABSORBANT MATERIAL. LARGE SPILLS:DIKE & PUMP INTO SUITABLE CONTAINERS FOR DISPOSAL.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:STORE IN COOL, DRY AREA OUT OF SUNLIGHT. STORE AWAY FROM HEAT OR ANY HEAT SOURCES. PROTECT FROM FREEZING.
Other Precautions:NONE.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:IF EXPOSURE MAY EXCEED TLV VALUE, USE A NIOSH APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE.
Ventilation:GENERAL MECHANICAL VENTILATION MAY BE SUFFICIENT TO KEEP VAPOR CONCENTRATIONS W/IN SPECIFIED TLV RANGES.
Protective Gloves:PLASTIC OR RUBBER GLOVES.
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
Other Protective Equipment:EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET ANSI DESIGN CRITERIA . ADEQ CLTHG SHOULD BE WORN TO PVNT SKIN CONT.
Work Hygienic Practices:HYGIENE & GOOD HOUSEKEEPING PRACTICES SHOULD BE OBSERVED.
Supplemental Safety and Health
NONE SPECIFIED BY MANUFACTURER.

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:212F,100C
Vapor Pres:SEE INGS
Vapor Density:HVR/AIR
Spec Gravity:1.6 (H*2O=1)
Evaporation Rate & Reference:SLOWER THAN ETHER
Solubility in Water:SOLUBLE UNTIL DRIED
Appearance and Odor:WHITE, CREAMY PASTE; MILD ACRYLIC ODOR.

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
AVOID CONTACT W/STRONG OXIDIZING MATERIALS. ETHYLENE GLYCOL WILL REACT VIOLENTLY W/CHLOROSULFONIC ACID, OLEUM, H2SO4.
Stability Condition to Avoid:NONE KNOWN.
Hazardous Decomposition Products:THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD CARBON MONOXIDE &/OR CARBON DIOXIDE.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE OF PRODUCT I/A/W APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS.

| | |
|---|---|
| Common Name: | JUMP START |
| Manufacturer: | BALL |
| SDS Revision Date: | 1/1/2000 |
| SDS Format: | No Format Specified |

| | |
|---|---|
| Grainger Item Number(s): | 2U001, 2U002, 5ND64, 5ND65, 5ND66 |
| Manufacturer Model Number(s): | 8141110, 8141550, 8211050, 8211110, 8211550, JUMP START |

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BALL(R*)

MSDS NO.: 7S648

MANUFACTURED FOR:
W.W. GRAINGER. INC.
100 GRAINGER PARKWAY
LAKE FOREST, IL 60045-5201
USA
(847) 535-1000

TECHNICAL SERVICE: (847) 535-5400

EMERGENCY PHONE: (800) 228-5635

PRODUCT CODE: SKU #5ND65 5ND64 5ND66

ITEM: #8211110 8211050 8211550

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: JUMP START

PRODUCT TYPE: ALL PURPOSE CLEANER

MSDS DATE: JANUARY 1, 2000

HMIS HAZARD RATING:
HEALTH 2
FLAMMABILITY 0
REACTIVITY 0

HMIS SCALE:

4=VERY HIGH
3=HIGH
2=MODERATE
1=SLIGHT
0=INSIGNIFICANT

## I INGREDIENTS

top

| INGREDIENTS | CAS NUMBER | OSHA (PEL) | ACGIH (TLV) | % |
|---|---|---|---|---|
| WATER | 7732-18-5 | NE | NE | |
| ETHOXYLATED NONYL PHENOL | 9016-45-9 | NE | NE | 2 - 5 |

* REPORTABLE UNDER S.A.R.A. TITLE III SECTION 313

** SUBJECT TO REPORTING REQUIREMENTS UNDER THE PENNSYLVANIA, NEW JERSEY, AND MASSACHUSETTS HAZARDOUS SUBSTANCE LIST.

## II PHYSICAL DATA

top

APPEARANCE & ODOR: CLEAR BLUE LIQUID; PLEASANT FRAGRANCE.

BOILING POINT: APPROX. 212 DEG. F

SPECIFIC GRAVITY (WATER = 1): 1.02

VAPOR PRESSURE (MMHg 20 DEG. C): NE

VOLATILE ORGANIC COMPOUND: 0 GRAMS/LITER

VAPOR DENSITY (AIR = 1): NE

pH: 11.5 - 12.5

SOLUBILITY IN WATER: COMPLETE

EVAP. RATE (BuAc = 1): NE

## III FIRE & EXPLOSION HAZARD

top

FLASH POINT: NA

AUTO IGNITION TEMPERATURE: NA

FLAMMABLE LIMIT:
LEL: NA
UEL: NA

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE

EXTINGUISHING MEDIA:
(X) WATER SPRAY
(X) CARBON DIOXIDE
(X) FOAM
(X) DRY CHEMICAL
( ) NA

## IV REACTIVITY DATA

top

STABILITY:
(X) STABLE
( ) UNSTABLE

CONDITIONS TO AVOID: NA

HAZARDOUS POLYMERIZATION:
( ) MAY OCCUR
(X) WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

HAZARDOUS DECOMP/BYPRODUCT: OXIDES OF CARBON.

## V HEALTH HAZARD INFORMATION & FIRST AID PROCEDURES

top

A. CHRONIC HEALTH HAZARD: NONE KNOWN

B. MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:
PRE-EXISTING EYE, SKIN AND RESPIRATORY DISORDERS.

C. CARCINOGENICITY:

NTP:
( ) YES
(X) NO

IARC:
( ) YES
(X) NO

OSHA:
( ) YES
(X) NO

PROP 65:
( ) YES
(X) NO

| | ROUTE OF ENTRY | SIGNS & SYMPTOMS OF ACUTE OVEREXPOSURE | EMERGENCY & FIRST AID PROCEDURES |
|---|---|---|---|
| EYES | X | MAY CAUSE IRRITATION WITH REDNESS, TEARING | FLUSH THOROUGHLY WITH WATER, REMOVE ANY CONTACT LENSES. CONTINUE TO FLUSH WITH WATER FOR AT LEAST 15 MINUTES. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. |
| INHALATION | X | NAUSEA, HEADACHE, IRRITATED NASAL PASSAGES. | MOVE SUBJECT TO FRESH AIR. IF SYMPTOMS PERSIST, GET MEDICAL ATTENTION. |
| INGESTION | X | GASTROINTESTINAL DISTURBANCES | DRINK PLENTY OF WATER, AND CONTACT A PHYSICIAN AND POISON CONTROL CENTER IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. NEVER INDUCE VOMITING IN AN UNCONSCIOUS PERSON. |
| SKIN | X | REDNESS, DRYNESS, IRRITATION | WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, |

GET MEDICAL ATTENTION.

## VI PRECAUTIONS FOR SAFE HANDLING AND USE

top

MATERIAL IS SPILLED / RELEASED:
MOP UP MATERIAL OR PICK UP WITH ABSORBENT MATERIAL. RINSE WITH WATER.

WASTE DISPOSAL: FOLLOW ALL FEDERAL, STATE, AND LOCAL WASTE REGULATIONS.

HANDLING & STORING: KEEP OUT OF REACH OF CHILDREN.

OTHERS: FOLLOW NORMAL HYGIENE PRACTICES.

## VII SPECIAL PROTECTION INFORMATION

top

RESPIRATORY:
(X) NONE
( ) DUST MASK
( ) CANISTER

VENTILATION:
( ) NONE
(X) LOCAL EXHAUST
( ) MECHANICAL

PROTECTIVE GLOVES:
( ) NONE
( ) CHEMICALLY RESISTANT
(X) FOR PROLONGED CONTACT

EYE PROTECTION:
( ) NONE
(X) EYE PROTECTION/SPLASH GOGGLES
( ) FACE SHIELD

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NONE

## VIII D.O.T. INFORMATION

top

PROPER SHIPPING NAME:

HAZARD CLASS:

OTHER: THIS PRODUCT IS NOT D.O.T. REGULATED

MSDS PREPARED BY: EH&S/REGULATORY AFFAIRS

THE INFORMATION CONTAINED HEREIN HAS BEEN DEVELOPED BASED UPON CURRENT AVAILABLE SCIENTIFIC DATA. NEW INFORMATION MAY BE DEVELOPED FROM TIME TO TIME WHICH MAY RENDER THE CONCLUSIONS OF THIS REPORT OBSOLETE. THEREFORE, NO WARRANTY IS EXTENDED AS TO THE APPLICABILITY OF THIS INFORMATION TO THE USER'S INTENDED PURPOSE OR FOR THE CONSEQUENCES OF ITS USE OR MISUSE.

NA = NOT APPLICABLE
NE = NOT ESTABLISHED
NH = NOT HAZARDOUS

KELLY-MOORE PAINT COMPANY,INCORPORATED -- KEL-GUARD RUST INHIBITIVE ENAMEL 1700 SER -- 8010-00N011838

========== Product Identification ==========

Product ID:KEL-GUARD RUST INHIBITIVE ENAMEL 1700 SER
MSDS Date:07/12/1991
FSC:8010
NIIN:00N011838
MSDS Number: BQNWB
=== Responsible Party ===
Company Name:KELLY-MOORE PAINT COMPANY,INCORPORATED
Address:1015 COMMERCIAL STREET
City:SAN CARLOS
State:CA
ZIP:94070
Country:US
Info Phone Num:415-592-8337
Emergency Phone Num:800-424-9300 (CHEMTREC)
Preparer's Name:JULIAN SCHAFER
CAGE:23865
=== Contractor Identification ===
Company Name:KELLY-MOORE PAINT CO INC
Address:1015 COMMERCIAL ST
Box:City:SAN CARLOS
State:CA
ZIP:94070
Country:US
Phone:415-592-8337
CAGE:23865

========== Composition/Information on Ingredients ==========

Ingred Name:AROMATIC 100.VP:3-5 MMHG AT 100F,37.8C.
CAS:64742-95-6
Fraction by Wt: <5%
Other REC Limits:100 PPM (MFR)
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:MINERAL SPIRITS (COMMERCIAL MIX OF NAPHTHENES,PARAFFINS AND
AROMATIC HYDROCARBONS).VP:2.0 MMHG.
Fraction by Wt: 40-60%
Other REC Limits:100 PPM (MFR)
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:RESPIRATORY PROT: PROPERLY FITTED RESPIRATOR (NIOSH/MSHA
TC-23C OR BETTER) FOR ORGANIC VAPORS W/A DUST FILTER AS NEEDED.
RTECS #:9999999ZZ
Other REC Limits:N/K
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:PROTECTIVE GLOVES: RESISTANT RUBBER OR PLASTIC RECOMMENDED
TO PREVENT EXTENDED EXPOSURE.
RTECS #:9999999ZZ
Other REC Limits:N/K
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:EYE PROTECTION: LENGTH FACESHIELD MAY BE ADDED TO GOGGLES .
RTECS #:9999999ZZ
Other REC Limits:N/K
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:N/K
Routes of Entry: Inhalation:YES  Skin:YES  Ingestion:YES
Reports of Carcinogenicity:NTP:NO  IARC:NO OSHA:NO
Health Hazards Acute and Chronic:CONCENTRATING AND INHALING CONTENTS MAY BE HARMFUL OR FATAL. PROLONGED EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY RESULT IN KIDNEY OR LIVER DAMAGE. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREX POSURE TO SOLVENTS WITH PERMANENT BRAINAND NERVOUS SYSTEM DAMAGE.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:EYES:IRRITATION. SKIN:IRRITATION. INGESTION/ INHALATION:DIZZINESS, HEADACHE, NAUSEA, CONFUSION, IRRITATION TO UPPER RESPIRATORY TRACT, UNCONSCIOUSNESS.
Medical Cond Aggravated by Exposure:SEE YOUR PHYSICIAN FOR SPECIFIC MEDICAL OPINION REGARDING YOUR CONDITION.

========== First Aid Measures ==========

First Aid:EYES:FLUSH WITH LARGE VOLUMES OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. SKIN:WIPE OFF WITH A RAG. WASH THOROUGHLY WITH SOAP AND WATER. INGESTION:CONSULT HOSPITAL EMERGENCY ROOM OR POISO N CONTROL CENTER IMMEDIATELY. INHALATION:REMOVE TO FRESH AIR. RESTORE BREATHING. CONSULT PHYSICIAN.

========== Fire Fighting Measures ==========

Flash Point:>100F,37.8C
Lower Limits:1.0%
Extinguishing Media:USE APPROVED CLASS B FIRE EXTINGUISHER OR EXTINGUISHING AGENTS SUCH AS CARBON DIOXIDE,FOAM,ETC.
Fire Fighting Procedures:USE NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP .COOL CLSD CONTR W/ H2O TO PVNT PRESS BUILDUP.PROD FLOATS ON H2O & CAN IGNITE;USE CAUT W/ WATER SPRAY/FOG.
Unusual Fire/Explosion Hazard:KEEP CONTRS CLSD TIGHT.ISOLATE FROM HEAT, ELEC EQUIP,SPARKS & OPEN FLAME.CLSD CONTR EXPOSED TO EXTREME HEAT MAY EXPLODE.DO NOT APPLY TO HOT SURFACES.(SEE SUPP)

========== Accidental Release Measures ==========

Spill Release Procedures:EXTINGUISH ALL SOURCES OF IGNITION. VENTILATE AREA TO PREVENT BUILDUP OF VAPORS WHICH MAY ACCUMULATE IN LOW AREAS. LARGE SPILL:DIKE AREA WITH ABSORBENT MATERIAL AND SCOOP UP WITH NON- SPARKING TOOLS.  SMALL SPILL:SOAK UP LIQUID WITH ABSORBENT.
Neutralizing Agent:N/K

========== Handling and Storage ==========

Handling and Storage Precautions:STORE UPRIGHT IN SEALED CONTAINERS AWAY FROM HEAT AND FLAME. USE ONLY WITH ADEQUATE VENTILATION. CLOSE CONTAINER AFTER EACH USE.
Other Precautions:KEEP OUT OF THE REACH OF CHILDREN.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:USE A PARTICLE MASK (NIOSH/MSHA TC-21C) TO AVOID BREATHING SPRAY MIST/SANDING DUST IF LOCAL VENTILATION IS ADEQUATE TO KEEP TLV WITHIN ACCEPTABLE LIMITS. IF LOCAL VENT NOT SUFF OR WHERE EXPOSURE LIMIT S ARE EXCEEDED WEAR A SUITABLE (ING 3)
Ventilation:LOC EXHAUST TO KEEP TLV 300F,149C
Melt/Freeze Pt:M.P/F.P Text:N/K
Decomp Temp:Decomp Text:N/K
Vapor Pres:N/K
Vapor Density:>1 (AIR=1)
Spec Gravity:SEE SUPP DATA
Evaporation Rate & Reference:SLOWER THAN ETHER
Solubility in Water:N/K
Appearance and Odor:LIQUID

Percent Volatiles by Volume:50-65

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS.
Stability Condition to Avoid:HIGH TEMPERATURES,IGNITION SOURCES.
Hazardous Decomposition Products:MAY PRODUCE HAZARDOUS FUMES WHEN
HEATED TO DECOMPOSITION OR COMBUSTION AS IN WELDING OR FIRE.
Conditions to Avoid Polymerization:WILL NOT OCCUR.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL,
STATE AND LOCAL REGULATIONS . INCINERATE IN APPROVED FACILITY. DO
NOT INCINERATE CLOSED CONTAINERS.

# MATERIAL SAFETY DATA SHEET

Complies with the OSHA Communication Standard 29 CFR 1910.1200

Anchor Paint Manufacturing Co., Inc.
6707 E. 14th Street
P.O. Box 1305
Tulsa, Oklahoma 74101

For health hazard information call: (918) 836-4626, for other information call your Anchor Paint representitive.

## Section I. Identification

CAS: Mixture

Mailing Date: 12/2/2014

Code Number: KM1711-100 Description: RUST PREVENTIVE PRIMER Revision Date: 05/28/2014

## Section II Hazardous Ingredients

| | Name | CAS NO. | PEL | TLV | OTHER | % By Wt |
|---|---|---|---|---|---|---|
| | N-BUTYL ACETATE | 123-86-4 | TWA 150 PPM | TWA 150 PPM | STEL 200 PPM | .13 |
| | AROMATIC HYDROCARBON | 64742-95-6 | TWA 25 PPM | TWA 25 PPM | N.E. | .13 |
| * | XYLENE, (XYLOL) | Mixture | TWA 100 PPM | TWA 100 PPM | STEL 150 PPM | .02 |
| | RAW LINSEED OIL | 8001-26-1 | TWA 5 mg/m3 | N.E. | N.E. | .19 |
| | SOYBEAN PHOSPHATIDES | 8030-76-0 | TWA 5 MG/M3 | TWA 10 MG/M3 | RESP. MIST | .03 |
| | CALCIUM CARBOXYLATE | | N.E. | N.E. | N.E. | TRC |
| | PROPYLENE GLYCOL MONOMETHYL ETHER | 107-98-2 | TWA 100 PPM | TWA 100 PPM | STEL 150 PPM | TRC |
| * | DIETHYLENE GLYCOL MONOMETHYL ETHER | 111-77-3 | N.E. | N.E. | N.E. | TRC |
| | MINERAL SPIRITS (STODDARD SOLVENT) | 8052-41-3 | TWA 100 PPM | TWA 100 PPM | MFG. 100 PPM | 1.15 |
| | TITANIUM DIOXIDE | 13463-67-7 | TWA 15 MG/M3 | TWA 10 MG/M3 | N.E. | .82 |
| | CALCIUM BOROSILICATE | 59794-15-19 | TWA 5 MG/M3 | TWA 5 MG/M3 | RESP. DUST | .24 |
| | CRYSTALLINE SILICA | 14808-60-7 | 0.05 MG/M3 | TWA .1 MG/M3 | RESP. DUST | TRC |
| | TALC, MAGNESIUM SILICATE HYDRATE | 14807-96-6 | N.E. | TWA 2 MG/M3 | REL 2 MG/M3 | 1.86 |
| * | COBALT AND COBALT COMPOUNDS | | 0.05 MG/M3 | 0.05 MG/M3 | N.E. | TRC |
| | ZIRCONIUM 2-ETHYLHEXANOATE | 22464-99-9 | TWA 5 MG/M3 | TWA 5 MG/M3 | N.E. | .01 |
| | METHYL ETHYL KETOXIME | 96-29-7 | N.E. | N.E. | TWA 10 PPM | TRC |

*The product described by this MSDS may contain chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Hazardous ingredients marked with an (*) are subject to the reporting requirements of this law.

VOC Lbs/Gal Actual.....: 2.93 351.60 Gr/L

VOC Lbs/Gal Less Water + Exempt: 2.93 351.60 Gr/L Specific Gravity (Water=1): 1.41

## Section III. Physical/Chemical Characteristics

Boiling Point: 282 - 400 Deg. F

Vapor Pressure (mm Hg): @20.0C 6mm Melting Point: N.A.

Vapor Density (Air=1): 4.0 Evaporation Rate (Butyl Acetate=1)

Heavier than air. (Ethyl Ether=1): 1.0

Solubility in Water: Slight solubility

Appearance and Odor: Liquid; Aromatic odor, see description

## Section IV. Fire and Explosion Hazard Data

| Flash Point (Method Used): | Flammable Limits: | LEL | UEL |
|---|---|---|---|
| 80 Deg. F T.C.C. | | 1.0 | N.E. |

Extinguishing Media: Carbon Dioxide, Dry Chemical - Foam - Class "B" Fires.

Special Fire Fighting Procedures: Water may be ineffective. Water should be used to cool containers exposed to fire.

Unusual Fire and Explosion Hazards: Forms flammable and/or explosive mixtures with air or oxygen, keep ignition sources at great distances.

## Section V. Reactivity Data

Stability: Unstable - NO Stable X Conditions To Avoid: Avoid heat, fire, ignition sources.

Incompatibility (Materials to Avoid): Avoid contact with strong oxidizers, alkaline materials, mineral acids, and halogens.

Hazardous Decomposition or Byproducts: Carbon Monoxide, Carbon Dioxide, Oxides of Nitrogen.

Hazardous Polymerization: May Occur NO Will Not Occur X

Conditions to Avoid: Does not heat spontaneously.

## Section VI. Health Hazard Data

Route(s) of Entry: Inhalation? Yes Skin? Yes Ingestion? Yes
Health Hazards (Acute and Chronic):

Acute (From Short-Term "Overexposure"):

Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsiciousness, and even asphyxiation.

Eye contact may cause severe irritation, redness, tearing, blurred vision, and a sensation of seeing halos around lights.

Prolonged contact with the skin may lead to extraction of natural oils with resultant irritation or dermatitis.

If swallowed, can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal!

Chronic (From Long-Term "Overexposure"):

May cause liver, kidney, CNS damage as well as cardiac abnormalities.
Emergency and First Aid Procedures:

Inhalation: Move to fresh air. Give artificial respiration if necessary.
Skin Contact: Wash with soap & water.

Eye Contact: Flush with water for at least 15 minutes, consult a physician.
Ingestion: Drink one or two glasses of water to dilute. Do not induce vomiting. Consult physician or poison control center as soon as possible.
Treat symptomatically.

Carcinogenicity: NTP? NO IARC Monographs? NO OSHA Regulated? NO
Signs and Symptoms of Exposure: Intoxicating, narcotic, dizziness & nausea.
Medical Conditions Generally Aggravated by Exposure: Persons with severe skin, liver, heart, kidney problems or general poor health should avoid use.

## Section VII. Precautions for Safe Handling and Use

Steps To Be Taken In Case Material Is Released Or Spilled: Material is flammable, care should be exercised to prevent fire. Spilled material may be pumped or transferred into another container, or absorbed and removed from the area. Non-sparking tools and equipment should be used.
Waste Disposal Method: Incinerate or dispose of in accordance with all Local, State and Federal regulations.

Precautions to Be Taken in Handling and Storing: Keep containers closed, do not store or use near heat, sparks, or flame.

Other Precautions: Ground all containers when transferring liquid. Avoid prolonged contact with skin. Avoid free fall of liquid. Do not flame cut, saw, drill, braze or weld empty containers or drums.

## Section VIII. Control Measures

Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see section II), a NIOSH/MSHA approved respirator is advised. Engineering or administrative controls should be implemented to reduce exposure. Refer to 29 CFR 1910.134 !

Ventilation: Provide sufficient ventilation to keep vapor concentration below given TLV values.

Local Exhaust - Exhaust at floor level and/or point of release.
Special - Vapors are heavier than air.

Mechanical (General) - Use in well ventilated areas.

Other - Eye bath and shower should be available. Use chemical resistant apron, boots or other clothing if needed to avoid repeated or frequent skin contact. Liquid may penetrate shoes and other clothing causing delayed irritation. Remove contaminated clothing as soon as possible and wash hands before eating, smoking or using washroom/restroom.

Protective Gloves: Use synthetic chemical resistant gloves.
Eye Protection: Use safety eyewear designed to protect against splash of liquids and vapors.

## Section IX. Other Health Information

S-101 CRYSTALLINE SILICA:

This product contains crystalline silica which is known to cause cancer, respiratory disease and Silicosis if inhaled over a prolonged period of time. The International Agency for Research on Cancer (IARC) published IARC Monograph Volume 68 in June, 1997. Volume 68 reclassified crystalline silica in the form of quartz from a Group 2A probable human carcinogen to a Group 1 known human carcinogen. The NTP has concluded that "Silica, Crystalline (respirable)" may reasonably be anticipated to be a carcinogen, based on sufficient evidence for the carcinogenicity of respirable crystalline silica in experimental animals and limited evidence in humans. The OSHA PEL and MSHA exposure limit is defined as: (10 mg/m3)/(% silica+2). Other Recommended Limits: "NIOSH" - The National Institute for Occupational Safety and Health (NIOSH) has established a recommended REL of 0.05 mg/m3 for respirable crystalline silica as determined by a full-shift sample for a 10-hour working day, 40-hour work week.

S-103 COBALT and COBALT COMPOUNDS:

This product contains a Cobalt compound. Cobalt and Cobalt compounds are Group 2B carcinogens. IARC has classified Cobalt and Cobalt compounds as Group 2B carcinogens which are possibly carcinogenic to humans. See IARC Mongraph, Volume 52.

This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Anchor Paint Mfg. Co., Inc. knowledge or obtained from sources believed by Anchor Paint Mfg. Co., Inc. to be accurate, and Anchor Paint Mfg. Co., Inc. does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests.

# MATERIAL SAFETY DATA SHEET

Manufacturer's Name:

**Masterchem®Industries, Inc.**
3135 Old Highway M
Imperial, MO 63052
Company Code: MTER
Issue Date: October 10, 2001

Transportation Emergencies:
Call Chemtrec
1-800-424-9300
Emergency Telephone No.
1-800-325-3552
Medical Emergency No.
1-866-303-6951

NPCA HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

| RATING | IDENTIFICATION | |
|---|---|---|
| 4 = EXTREME | HEALTH | 2 |
| 3 = HIGH | FLAMMABILITY | 0 |
| 2 = MODERATE | REACTIVITY | 0 |
| 1 = SLIGHT | CHRONIC HEALTH | See Section V |
| 0 = MINIMAL | | |

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: **Kilz 2® - One Gallon Can**
PRODUCT NUMBER: 51652-20001-0
PRODUCT CLASS: Water Reducible Coating

## SECTION II A-HAZARDOUS INGREDIENTS

| CAS REGISTRY NO. | %W | CHEMICAL NAME(S) | OCCUPATIONAL EXPOSURE LIMITS | | VAPOR PRESSURE | LISTED AS A CARCINOGEN |
|---|---|---|---|---|---|---|
| | | | TLV | PEL | | |
| 107-21-1 | 2.87 | Ethylene Glycol | 50 ppm | 50 ppm | 0.12 mm Hg @ 25°C | No |
| | | | | | | |

## SECTION II B - OTHER INGREDIENTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Proprietary | 30-40 | Acrylic Resin Emulsion | - | - | - | No |
| 7732-18-5 | 25-35 | Water | - | - | - | No |
| 13463-67-7 | 5-15 | Titanium Dioxide | - | - | - | No |
| 1317-65-3 | 10-25 | Calcium Carbonate | - | - | - | No |
| | | | | | | |

## SECTION III - PHYSICAL DATA

| | |
|---|---|
| APPEARANCE: White, Medium Viscosity Liquid | ODOR: Mild, Sweet Acrylic |
| BOILING RANGE: 212° F | VAPOR DENSITY: ☒ HEAVIER ☐ LIGHTER THAN AIR |
| EVAPORATION RATE: ☐ FASTER ☒ SLOWER THAN ETHER | 66.83% VOLATILE VOLUME: 10.84 POUNDS WT/GAL |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | | |
|---|---|---|---|
| FLAMMABILITY CLASSIFICATION: None | FLASH POINT: N/A | LEL: N/A | DOT: Not required |

**EXTINGUISHING MEDIA:**

| | | | | | |
|---|---|---|---|---|---|
| DRY CHEMICAL ☒ | ALCOHOL FOAM ☒ | WATER FOG ☒ | FOAM ☒ | $CO_2$ ☒ | OTHER ☐ |

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product will not burn, however dried primer film will support combustion.

**SPECIAL FIREFIGHTING PROCEDURES:** Firefighters and others exposed to products of combustion should wear self-contained breathing apparatus and full protective clothing. Use water to keep fire-exposed containers cool to reduce pressure.

## SECTION V - HEALTH HAZARD DATA

**EFFECTS OF OVER EXPOSURE:** Inhalation: May cause irritation to upper respiratory tract. Splash (Eyes): Can cause irritation, burning and redness. Splash (Skin):Prolonged or repeated contact may cause minor irritation. Ingestion: Gastrointestinal distress, vomiting and diarrhea may result.
**PRIMARY ROUTE(S) OF ENTRY:**

| | | |
|---|---|---|
| DERMAL ☒ | INHALATION ☒ | INGESTION ☒ |

**EMERGENCY AND FIRST AID PROCEDURES:** Inhalation: Remove to fresh air. Treat symptomatically. Consult a physician. Splash (eyes): Flush immediately with large amounts of water for at least 15 minutes. Take to physician for medical treatment. Splash (skin); Wash affected areas with soap and water. Remove contaminated clothing. Consult a physician if irritation persists. Ingestion: Drink 1 or 2 glasses of water to dilute. Induce vomiting. Consult physician or poison control center immediately. Treat symptomatically.

## SECTION VI - REACTIVITY DATA

| | | |
|---|---|---|
| **STABILITY:** | UNSTABLE ☐ | STABLE ☒ |
| **HAZARDOUS POLYMERIZATION:** | MAY OCCUR ☐ | WILL NOT OCCUR ☒ |

**HAZARDOUS DECOMPOSITION PRODUCTS:** May produce fumes when heated to decomposition, as in welding or fire. Fumes may contain: carbon monoxide, carbon dioxide, hydrocarbons and other products of combustion.

**CONDITIONS TO AVOID:** Temperature Extremes

**INCOMPATIBILITY:** (MATERIALS TO AVOID) Water-reactive materials

## SECTION VII - SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Limit spread of spill or leak. Ventilate area. Soak up with inert absorbent material and transfer to closed containers. See Section VIII for required protective measures. Keep material out of sewers and/or drains.

**WASTE DISPOSAL METHOD:** Dispose of in accordance with all local, state and federal regulations. Dry product and empty containers may be landfilled. Full or partially full containers should be dried or coagulated with the liquid portion poured off. Coagulated material should be dried before landfilling. Product may also be incinerated.

## SECTION VIII-SAFE HANDLING AND USE INFORMATION

**RESPIRATORY PROTECTION:** If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC 23C or Equivalent) or leave the area.

**VENTILATION:** Ventilation of sufficient volume and pattern should be provided to minimize exposure. Local exhaust ventilation required when applying in a confined area.

**PROTECTIVE GLOVES:** Required, rubber or neoprene to prevent skin contact.

**EYE PROTECTION:** Use safety eyewear including splash guards or side shields.

**OTHER PROTECTIVE EQUIPMENT:** Wear protective clothing. Remove and wash contaminated clothing before re-use.

**HYGIENIC PRACTICES:** Wash hands before eating or using the washroom. Smoke in smoking areas only.

## SECTION IX - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Store in accordance with OSHA 1910.106. Store in a cool, dry, well ventilated area. Protect from freezing. Frozen product may coagulate and become unusable.

**OTHER PRECAUTIONS: DO NOT TAKE INTERNALLY.** Avoid prolonged contact with skin. Keep closure tight and container upright to prevent leakage. Do not store near heat, sparks, or open flame. Keep out of eyes. Do not breathe spray mist. Avoid contact with or breathing of vapors released during curing process. Do not remove or deface container label. Keep out of the reach of children.



| | | |
|---|---|---|
| PREPARED BY: William R. Benton | DATE PREPARED: April 7, 2003 | |
| TITLE: MSDS Coordinator | SUPERSEDES: September 26, 2001 | K2 |

(Signature Available upon Request)

# SAFETY DATA SHEET
## Klean Strip Xylol Xylene


Printed: 04/14/2015
Revision: 04/14/2015
Supersedes Revision: 03/26/2015

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Klean Strip Xylol Xylene

**Company Name:** W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

**Phone Number:** (901)775-0100

**Web site address:** www.wmbarr.com

**Emergency Contact:** 3E 24 Hour Emergency Contact (800)451-8346
**Information:** W.M. Barr Customer Service (800)398-3892

**Intended Use:** Paint, stain, and varnish thinning.

**Synonyms:** GXY24, QXY24, CXY24

**Additional Information** This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

## 2. HAZARDS IDENTIFICATION

**Flammable Liquids, Category 3**
**Acute Toxicity: Skin, Category 4**
**Acute Toxicity: Inhalation, Category 4**
**Skin Corrosion/Irritation, Category 2**
**Serious Eye Damage/Eye Irritation, Category 2A**
**Carcinogenicity, Category 2**
**Specific Target Organ Toxicity (single exposure), Category 3**
**Specific Target Organ Toxicity (repeated exposure), Category 2**
**Aspiration Toxicity, Category 1**

**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**
H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H351: Suspected of causing cancer if inhaled.
H373: May cause damage to ears through prolonged or repeated exposure if inhaled.

**GHS Precaution Phrases:**
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P235: Keep cool.

**GHS Response Phrases:**

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313: IF exposed or concerned: Get medical attention/advice.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P314: Get medical attention/advice if you feel unwell.
P321: Specific treatment see label.
P331: Do NOT induce vomiting.
P332+313: If skin irritation occurs, get medical advice/attention.
P337+313: If eye irritation persists, get medical advice/attention.
P362: Take off contaminated clothing and wash before re-use.
P363: Wash contaminated clothing before reuse.
P370+378: In case of fire, use dry chemical powder to extinguish.

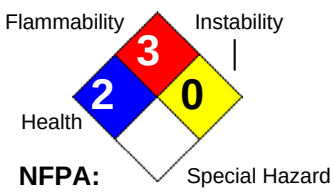
**GHS Storage and Disposal Phrases:**

P403+233: Store container tightly closed in well-ventilated place.
P405: Store locked up.
P501: Dispose of contents/container according to local, state and federal regulations.

**Hazard Rating System:**

**HMIS:**

| | | |
|---|---|---|
| HEALTH | * | 2 |
| FLAMMABILITY | | 3 |
| PHYSICAL | | 0 |
| PPE | | X |




**NFPA:**

**OSHA Regulatory Status:** This material is classified as hazardous under OSHA regulations.

**Potential Health Effects (Acute and Chronic):**

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, irritation of respiratory tract, weakness, drowsiness, depression of central nervous system, and watering of eyes. Severe overexposure may cause unconsciousness, anesthesia, irregular heartbeat, and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:
This product is a skin irritant. It may be absorbed through the skin. It may cause irritation, dermatitis, drying of skin, and numbness in fingers and arms. May increase severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. It may cause irritation, redness, stinging, tearing, excessive swelling of the conjunctiva; and or excessive blinking.

Ingestion Acute Exposure Effects:
Harmful or fatal if swallowed. May cause nausea, vomiting, gastrointestinal irritation, or diarrhea.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with

neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause skin irritation, permanent central nervous system changes, kidney damage, and liver damage.

**Medical Conditions Generally Aggravated By Exposure:** Diseases of the skin, liver, and kidneys.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| CAS # | Hazardous Components (Chemical Name) | Concentration | RTECS # |
|---|---|---|---|
| 1330-20-7 | Xylene (mixed isomers) {Benzene, dimethyl-} | 60.0 -100.0 % | ZE2100000 |
| 100-41-4 | Ethylbenzene {Ethylbenzol; Phenylethane} | 10.0 -30.0 % | DA0700000 |
| 98-82-8 | Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene} | 0.1 -1.0 % | GR8575000 |

**Additional Chemical Information:** Ethylbenzene is a component of Xylene.

## 4. FIRST AID MEASURES

**Emergency and First Aid Procedures:**

Inhalation:
If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:
Irritation may result. Immediately wash with soap and water.

Eye Contact:
Immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

Ingestion:
Do not induce vomiting. Call you local poison control center, hospital emergency room, or physician immediately for instructions.

**Signs and Symptoms Of Exposure:** See Potential Health Effects.

**Note to Physician:** Call your local poison control center for further information.

## 5. FIRE FIGHTING MEASURES

NFPA Class IC flammable liquid

**Flash Pt:** 81.00 F Method Used: Closed Cup

**Explosive Limits:** LEL: AP 1% UEL: AP 7%

**Autoignition Pt:** 432.00 C

**Suitable Extinguishing Media:** Use carbon dioxide, dry powder, or foam.

**Fire Fighting Instructions:** Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spay to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

**Flammable Properties and Hazards:** Flammable Liquid! This material releases vapors at or below ambient temperatures. When
mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a
flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. A vapor and air

**Flammability Classification:**

mixture can create an explosion hazard in confined spaces such as sewers. If container is
not properly cooled, it can rupture in the heat of a fire.

## 6. ACCIDENTAL RELEASE MEASURES

**Steps To Be Taken In Case Material Is Released Or Spilled:**

Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

## 7. HANDLING AND STORAGE

**Precautions To Be Taken in Handling:**

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

**Precautions To Be Taken in Storing:**

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
|---|---|---|---|---|
| 1330-20-7 | Xylene (mixed isomers) {Benzene, dimethyl-} | PEL: 100 ppm | TLV: 100 ppm<br>STEL: 150 ppm | No data. |
| 100-41-4 | Ethylbenzene {Ethylbenzol; Phenylethane} | PEL: 100 ppm | TLV: 100 ppm<br>STEL: 125 ppm | No data. |
| 98-82-8 | Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene} | PEL: 50 ppm | TLV: 50 ppm | No data. |

| | |
|---|---|
| **Respiratory Equipment (Specify Type):** | For OSHA controlled work place and other regular users --Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provided protection against vapors. |
| **Eye Protection:** | Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals. |
| **Protective Gloves:** | Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused. |
| **Other Protective Clothing:** | Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. |
| **Engineering Controls (Ventilation etc.):** | Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.<br><br>Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air. |
| **Work/Hygienic/Maintenance Practices:** | Wash hands thoroughly after use and before eating, drinking, or smoking.<br><br>Do not eat, drink, or smoke in the work area.<br><br>Discard any clothing or other protective equipment that cannot be decontaminated.<br><br>Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical States:** | [ ] Gas [ X ] Liquid [ ] Solid |
| **Appearance and Odor:** | Sweet, pungent aromatic hydrocarbon |
| **Melting Point:** | -48.00 C - -25.00 C |
| **Boiling Point:** | 280.00 F - 288.00 F |
| **Autoignition Pt:** | 432.00 C |
| **Flash Pt:** | 81.00 F Method Used: Closed Cup |
| **Explosive Limits:** | LEL: AP 1% UEL: AP 7% |
| **Specific Gravity (Water = 1):** | 0.87 |
| **Density:** | 7.18 LB/GL at 77.0 F |

| | |
|---|---|
| **Vapor Pressure (vs. Air or mm Hg):** | 7 MM HG at 20.0 C |
| **Vapor Density (vs. Air = 1):** | No data. |
| **Evaporation Rate:** | No data. |
| **Solubility in Water:** | No data. |
| **Percent Volatile:** | 99.999 % by weight. |
| **VOC / Volume:** | 872.0000 G/L |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Unstable [ ] Stable [ X ] |
| **Conditions To Avoid - Instability:** | No data available. |
| **Incompatibility - Materials To Avoid:** | Incompatible with strong oxidizing agents. |
| **Hazardous Decomposition Or Byproducts:** | Decomposition may produce carbon monoxide and carbon dioxide. |
| **Possibility of Hazardous Reactions:** | Will occur [ ] Will not occur [ X ] |
| **Conditions To Avoid - Hazardous Reactions:** | No data available. |

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Information:** Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of
alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross over-exposure.

CAS# 1330-20-7:
Acute toxicity, LC50, Inhalation, Rat, 5000. PPM, 4 H.
Result:
Behavioral: Muscle contraction or spasticity.
Lungs, Thorax, or Respiration:Other changes.
- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ., Bethlehem, PA 18015, Vol/p/yr: 1,123, 1974

Standard Draize Test, Eyes, Species: Rabbit, 5.000 MG, 24 H, Severe.
Result:
Behavioral: General anesthetic.
Behavioral: Somnolence (general depressed activity).
Behavioral: Irritability.
- "Sbornik Vysledku Toxixologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

CAS# 100-41-4:
Tumorigenic Effects:, TCLo, Inhalation, Rat, 750.0 ppm.

**Chronic Toxicological Effects:**

Result:
Tumorigenic: Carcinogenic by RTECS criteria.
Kidney, Ureter, Bladder: Tumors.

Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, Severe.
Result:
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
- American Journal of Ophthalmology., Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611, Vol/p/yr: 29,1363, 1946

Xylene, all isomers:
Effects from Prolonged or Repeated Exposure:
Impaired neurological function was reported in workers exposed to solvents including xylene.
Studies in laboratory animals have shown evidence of impaired hearing following high levels
of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed.
Studies in laboratory animals indicate skeletal and visceral malformations, developmental
delays, and increased fetal resorptions following extremely high levels of maternal exposure.

Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were
observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

Ethyl Benzene:
Effects from Prolonged or Repeated Exposure:
Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects
were observed only at the highest exposure level (750 ppm). At this level the incidence of
renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). Also, the incidence of tumors was elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified
ethyl benzene as “possibly carcinogenic to humans” (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal
exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

**Carcinogenicity/Other Information:**

IARC 2B - Possibly Carcinogenic to Humans
ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
ACGIH A4 - Not Classifiable as a Human Carcinogen.

| CAS # | Hazardous Components (Chemical Name) | NTP | IARC | ACGIH | OSHA |
|---|---|---|---|---|---|
| 1330-20-7 | Xylene (mixed isomers) {Benzene, dimethyl-} | n.a. | 3 | A4 | n.a. |
| 100-41-4 | Ethylbenzene {Ethylbenzol; Phenylethane} | n.a. | 2B | A3 | n.a. |
| 98-82-8 | Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene} | n.a. | 2B | n.a. | n.a. |

## 12. ECOLOGICAL INFORMATION

No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**LAND TRANSPORT (US DOT):**

**DOT Proper Shipping Name:** Xylenes
**DOT Hazard Class:** 3 FLAMMABLE LIQUID
**UN/NA Number:** UN1307 **Packing Group:** III


**Additional Transport Information:** The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

## 15. REGULATORY INFORMATION

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

| CAS # | Hazardous Components (Chemical Name) | S. 302 (EHS) | S. 304 RQ | S. 313 (TRI) |
|---|---|---|---|---|
| 1330-20-7 | Xylene (mixed isomers) {Benzene, dimethyl-} | No | Yes 100 LB | Yes |
| 100-41-4 | Ethylbenzene {Ethylbenzol; Phenylethane} | No | Yes 1000 LB | Yes |
| 98-82-8 | Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene} | No | Yes 5000 LB | Yes |

| | | |
|---|---|---|
| **This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:** | [X] Yes [ ] No | Acute (immediate) Health Hazard |
| | [X] Yes [ ] No | Chronic (delayed) Health Hazard |
| | [X] Yes [ ] No | Fire Hazard |
| | [ ] Yes [X] No | Sudden Release of Pressure Hazard |
| | [ ] Yes [X] No | Reactive Hazard |

| CAS # | Hazardous Components (Chemical Name) | Other US EPA or State Lists |
|---|---|---|
| 1330-20-7 | Xylene (mixed isomers) {Benzene, dimethyl-} | CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory; CA PROP.65: No |
| 100-41-4 | Ethylbenzene {Ethylbenzol; Phenylethane} | CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes |
| 98-82-8 | Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene} | CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes |

| | |
|---|---|
| **Regulatory Information Statement:** | All components of this material are listed on the TSCA Inventory or are exempt. |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Revision Date:** | 04/14/2015 |
| **Preparer Name:** | W.M. Barr EHS Department (901)775-0100 |
| **Additional Information About This Product:** | No data available. |
| **Company Policy or Disclaimer:** | The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations. |

# SAFETY DATA SHEET
## Klean Strip Paint Clean-up


Printed: 05/11/2015
Revision: 05/09/2015
Supersedes Revision: 11/13/2008

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Klean Strip Paint Clean-up

**Company Name:** W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

**Phone Number:** (901)775-0100

**Web site address:** www.wmbarr.com

**Emergency Contact:** 3E 24 Hour Emergency Contact (800)451-8346
**Information:** W.M. Barr Customer Service (800)398-3892

**Intended Use:** Clean up of natural and synthetic paint brushes.

**Synonyms:** QKPC94001

**Additional Information** This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

## 2. HAZARDS IDENTIFICATION

**Flammable Liquids, Category 3**
**Skin Corrosion/Irritation, Category 2**
**Serious Eye Damage/Eye Irritation, Category 2B**
**Germ Cell Mutagenicity, Category 1B**
**Toxic To Reproduction, Category 2**
**Specific Target Organ Toxicity (single exposure), Category 3**
**Aspiration Toxicity, Category 1**

**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**
H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H320: Causes eye irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H361: Suspected of damaging fertility or the unborn child.

**GHS Precaution Phrases:**
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective equipment as required.
P235: Keep cool.

**GHS Response Phrases:**

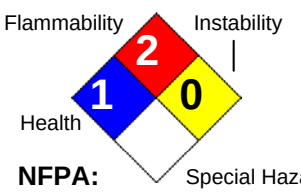
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313: IF exposed or concerned: Get medical attention/advice.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P321: Specific treatment see label.
P331: Do NOT induce vomiting.
P332+313: If skin irritation occurs, get medical advice/attention.
P337+313: If eye irritation persists, get medical advice/attention.
P362: Take off contaminated clothing and wash before re-use.
P370+378: In case of fire, use dry chemical powder to extinguish.

**GHS Storage and Disposal Phrases:**

P403+233: Store container tightly closed in well-ventilated place.
P405: Store locked up.
P501: Dispose of contents/container according to local, state and federal regulations.

**Hazard Rating System:**


**HMIS:**




**NFPA:**

**OSHA Regulatory Status:** This material is classified as hazardous under OSHA regulations.

**Potential Health Effects (Acute and Chronic):**

Inhalation Acute Exposure Effects:
May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:
May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:
Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

**Medical Conditions Generally Aggravated By Exposure:** Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| CAS # | Hazardous Components (Chemical Name) | Concentration | RTECS # |
|---|---|---|---|
| 8052-41-3 | Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | <=100.0 % | WJ8925000 |
| 95-63-6 | 1,2,4-Trimethylbenzene {Pseudocumene} | <=5.0 % | DC3325000 |

**Additional Chemical Information** Ingredients vary due to multiple blends and/or raw material suppliers

## 4. FIRST AID MEASURES

**Emergency and First Aid Procedures:**

Inhalation:
If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:
Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:
Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:
Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

If spontaneous vomiting is about to occur,place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

**Signs and Symptoms Of Exposure:** Inhalation, ingestion, and dermal are possible routes of exposure.

**Note to Physician:** Call your local poison control center for further information.

Inhalation: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation as required.

Ingestion: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

## 5. FIRE FIGHTING MEASURES

**Flammability Classification:** Class II

**Flash Pt:** >= 101.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

**Explosive Limits:** LEL: ~ 0.5 % UEL: ~ 6 %

**Autoignition Pt:** 446.00 F

**Suitable Extinguishing Media:** Use carbon dioxide, dry powder, or foam.

**Fire Fighting Instructions:** Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

**Flammable Properties and Hazards:** Combustible Liquid.

## 6. ACCIDENTAL RELEASE MEASURES

**Steps To Be Taken In Case Material Is Released Or Spilled:** Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

## 7. HANDLING AND STORAGE

**Precautions To Be Taken in Handling:** Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters, and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always use proper bonding and grounding procedures.

**Precautions To Be Taken in Storing:** Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
|---|---|---|---|---|
| 8052-41-3 | Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | PEL: 500 ppm | TLV: 100 ppm<br>STEL: 250 ppm | No data. |
| 95-63-6 | 1,2,4-Trimethylbenzene {Pseudocumene} | No data. | No data. | No data. |

**Respiratory Equipment (Specify Type):** For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

**Eye Protection:** Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

**Protective Gloves:** Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

**Other Protective Clothing:** Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

**Engineering Controls (Ventilation etc.):** Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

**Work/Hygienic/Maintenance Practices:** A source of clean water should be available in the work area for flushing eyes and skin.
Do not eat, drink, or smoke in the work area.
Wash hands thoroughly after use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical States:** [ ] Gas [ X ] Liquid [ ] Solid
**Appearance and Odor:** Water White / Free and Clear
**Melting Point:** No data.
**Boiling Point:** 298.00 F - 400.00 F
**Autoignition Pt:** 446.00 F
**Flash Pt:** >= 101.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
**Explosive Limits:** LEL: ~ 0.5 % UEL: ~ 6 %
**Specific Gravity (Water = 1):** 0.78
**Vapor Pressure (vs. Air or mm Hg):** 0.22 MM HG at 68.0 F
**Vapor Density (vs. Air = 1):** 4.7
**Evaporation Rate:** No data.
**Solubility in Water:** No data.
**Solubility Notes:** Very slightly soluble in cold water.
**Percent Volatile:** 100.0 % by weight.
**VOC / Volume:** 784.0000 G/L

## 10. STABILITY AND REACTIVITY

**Stability:** Unstable [ ] Stable [ X ]

**Conditions To Avoid - Instability:** No data available.

**Incompatibility - Materials To Avoid:** Incompatible with strong acids, alkalies, and oxidizers such as liquid chlorine and oxygen.

**Hazardous Decomposition or Byproducts:** Decomposition may produce carbon monoxide and carbon dioxide.

**Possibility of Hazardous Reactions:** Will occur [ ] Will not occur [ X ]

**Conditions To Avoid - Hazardous Reactions:** No data available.

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Information:** Refer to section 2 for acute and chronic effects.

| CAS # | Hazardous Components (Chemical Name) | NTP | IARC | ACGIH | OSHA |
|---|---|---|---|---|---|
| 8052-41-3 | Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | n.a. | n.a. | n.a. | n.a. |
| 95-63-6 | 1,2,4-Trimethylbenzene {Pseudocumene} | n.a. | n.a. | n.a. | n.a. |

## 12. ECOLOGICAL INFORMATION

No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose in accordance with federal, state, and local regulations.

## 14. TRANSPORT INFORMATION

**LAND TRANSPORT (US DOT):**

**DOT Proper Shipping Name:** Paint Related Material, Exempt Combustible Liquid per 49 CFR 173.150(f)
**DOT Hazard Class:**
**UN/NA Number:**

**Additional Transport Information:**

## 15. REGULATORY INFORMATION

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

| CAS # | Hazardous Components (Chemical Name) | S. 302 (EHS) | S. 304 RQ | S. 313 (TRI) |
|---|---|---|---|---|
| 8052-41-3 | Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | No | No | No |
| 95-63-6 | 1,2,4-Trimethylbenzene {Pseudocumene} | No | No | Yes |

| | | |
|---|---|---|
| **This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:** | [X] Yes [ ] No | Acute (immediate) Health Hazard |
| | [X] Yes [ ] No | Chronic (delayed) Health Hazard |
| | [X] Yes [ ] No | Fire Hazard |
| | [ ] Yes [X] No | Sudden Release of Pressure Hazard |
| | [ ] Yes [X] No | Reactive Hazard |

| CAS # | Hazardous Components (Chemical Name) | Other US EPA or State Lists |
|---|---|---|
| 8052-41-3 | Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No |
| 95-63-6 | 1,2,4-Trimethylbenzene {Pseudocumene} | CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No |

## 16. OTHER INFORMATION

**Revision Date:** 05/09/2015

**Preparer Name:** W.M. Barr and Company, Inc. (901)775-0100

**Additional Information About This Product:** No data available.

**Company Policy or Disclaimer:** The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

# KLEEN GREEN – NOZZLE GEL

# MATERIAL SAFETY DATA SHEET

01/11/00

**MSDS PROVIDED BY:**
**STOODY INDUSTRIAL AND WELDING SUPPLY, INC.**
**3316 National Ave., San Diego, Ca. 92113**
**Phone: (619) 234-6750**
**MILITARY EMERGENCY RESPONSE NUMBER 1-800-851-8061**

KLEEN GREEN – NOZZLE GEL

VERSION DATE 01/03/96 (REPRODUCED SIWS)

## SECTION 1 PRODUCT IDENTIFICATION

| | |
|---|---|
| COMPANY NAME WHO PROVIDED MSDS | HARRIS WELCO. DIV. OF J.W. HARRIS CO., INC. |
| COMPANY ADDRESS | 1051 YORK RD<br>KINGS MOUNTAIN, NC 28086 |
| EMERGENCY PHONE NUMBER | (800)-424-9300 |
| MSDS VERSION NUMBER | 3 |
| TRADE NAME | KLEEN GREEN – NOZZLE GEL |
| HAZARD RATING (HMIS) | THIS PRODUCT CONTAINS NO VOCS (VOLATILE ORGANIC COMPOUNDS)<br>HEALTH HAZARD – 0<br>FLAMMABILITY HAZARD – 1<br>REACTIVITY HAZARD – 0<br>PERSONAL PROTECTION - 0 |
| HMIS DESIGNATED KEY | 4-SEVERE HAZARD<br>3-SERIOUS HAZARD<br>2-MODERATE HAZARD<br>1 -SLIGHT HAZARD<br>0--MINIMAL HAZARD |

## SECTION 2 HAZARDOUS COMPONENTS

| MATERIAL | % BY WEIGHT | CAS NUMBER | ACGIH TLV (Mg/M3) | SEC 313 |
|---|---|---|---|---|
| ANTHRACENEDIONE – PHENYL AMINO - DIHYDROXY | 0.00 – 0.01% | 4851507 | NA | NA |
| PETROLATUM | 0.00 – 99.9% | 8009038 | NA | NA |

## SECTION 3 PHYSICAL PROPERTIES

| | |
|---|---|
| BOILING POINT | NA |
| MELTING POINT | 100.4-140F |
| VAPOR PRESSURE | NA |
| VAPOR DENSITY (AIR=1) | NA |
| SOLUBILITY IN WATER | NIL |
| SPECIFIC GRAVITY | .815-.86 |
| EVAPORATION RATE | NA |
| APPEARANCE AND ODOR | OPAQUE. NO ODOR |

## SECTION 4 FIRE AND PXPLOSION DATA

| | |
|---|---|
| FLASH POINT | GREATER THAN 390F (astm D-92) |
| EXRINGUISHING MEDIA | CARBON DIOXIDE, DRY CHEMICAL, OR FOAM. |
| SPECIAL PROCEDURES | PRESSURE-DEMAND, SELF-CONTAINED PROTECTION SHOULD BE PROVIDED: WATER SPRAY IS AN UNSUITABLE EXTINGUISHING AGENT. |
| UNUSUAL HAZARDS | NA |

## SECTION 5 REACTIVITY DATA

| | |
|---|---|
| STABILITY | STABLE |
| CONDITIONS TO AVOID | NONE |
| HAZARDOUS POLYMERIZATION | WILL NOT OCCUR |
| INCOMPATIBILITY | NA |
| HAZARDOUS DECOMPOSITION PRODUCTS | NA |

## SECTION 6 HEALTH HAZARD DATA

| | |
|---|---|
| ROUTES OF ENTRY | NONE |

# KLEEN GREEN – NOZZLE GEL

# MATERIAL SAFETY DATA SHEET

| | |
|---|---|
| HEALTH HAZARDS | NONE |
| CARCINOGENICITY | NA |
| SIGNS & SYMPTOMS OF EXPOSURE | NA |
| MEDICAL CONDITIONS FROM EXPOSURE | NONE |
| EMERGENCY & FIRST AID | EYES: FLUSH EYES WITH WATER FOR 15 MINUTES. SKIN: WASH WITH SOAP AND WATER. INHALATION: REMOVE TO FRESH AIR. CALL PHYSICIAN. INGESTION: DRINK WATER. |
| ADDITIONAL INFORMATION | NA |

**SECTION 7 PRECAUTIONS FOR SAFF HANDLING AND USE**

| | |
|---|---|
| SPILL AND LEAK PROCEDURES | SHUT OFF LEAK AND DIKE UP LARGE SPILLS. AFTER COOLING AND SOLIDIFICATION, SCRAPE AND/OR SHOVEL UP MATERIAL. FINALLY CLEAN AREA WITH AN OIL ABSORBENT MATERIAL. |
| WASTE AND DISPOSAL METHOD | DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. |
| HANDLING AND STORING PRECAUTIONS | STORE AWAY FROM FLAME.. HEAT (250) MAXIMUM. ALSO KEEP AWAY FROM STRONG OXIDIZING AGENTS. |
| OTHER PRECAUTIONS | NA |

**SECTION 8 CONTROL MEASURES**

| | |
|---|---|
| RESPIRATORY MEASURES | NONE REQUIRED. |
| VENTILATION | NA |
| PROTECTIVE GLOVES | IMPERVIOUS WHEN MOLTEN. |
| EYE PROTECTION | WEAR A FACE SHIELD IF PRODUCT IS MOLTEN |
| OTHER PROTECTIVE EQUIPMENT | WHEN MOLTEN, WEAR COVERALLS. |
| WORK/HYGIENIC PRACTICES | FOR MAXIMUM SAFETY: BE CERTIFIED FOR AND WEAR A RESPIRATOR AT ALL TIMES WHEN WELDING AND OR BRAZJNG. |

**SECTION 9 DISCLAIMER**

**THIS DATA IS BELIEVED TO BE ACCURATE. HARRIS WELCO MAKES NO WARRRANTY TO AND DISCLAIMS ALL LIABILITY FROM RELIANCE.**

**SECTION 10 ADDITIONAL INFORMATION**

NA = NOT APPLICABLE

NEW JERSEY RIGHT TO KNOW INFORMATION: (HAZARDOUS & NON-HAZARDOUS)

| | |
|---|---|
| USP PETROLATUM | CAS # 8009-03-8 |
| GREEN DYE | CAS # 4851-50-7 |

Brillianize®

**BRILLIANIZE, INC.**
**Safety Data Sheet**



**BRILLIANIZE, KleenMaster Products**

## 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

| **Product Name:** | **BRILLIANIZE®** |
|---|---|
| Identified uses: | Cleaner for all hard shiny surfaces. Glass, plastic and metal. |
| Uses advised against: | None known. |
| | |
| Manufacturer or supplier's details | |
| Company name of supplier: | Brillianize, Inc. |
| Address: | 4952 Industrial Way<br>Benicia, CA 94510 |
| Telephone: | (707) 751-0656 |
| Emergency Phone: | (707) 751-0656 |
| Email address (SDS): | customerservice@brillianize.com |

## 2. HAZARDS IDENTIFICATION

**GHS Classification**
Based on evaluation of currently available data, this substance or mixture is not classifiable according to GHS.

| | |
|---|---|
| **Signal word:** | N/A |
| **Hazard phrases:** | No phrases apply. |
| **Precaution phrases:** | No phrases apply. |

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

GHS Classification: Mixture
Chemical characterization: Polysiloxane emulsion

| Name | CAS-No. | Conc. (% w/w) |
|---|---|---|
| Water | 7732-15-5 | 99.1% |
| Proprietary Ingredient 1 | Proprietary | <1.0% |
| Proprietary Ingredient 2 | Proprietary | <1.0% |

Proprietary formulation: No hazardous ingredients above 1% or carcinogens above 0.1%. See section 11.

## 4. FIRST AID MEASURES

| | |
|---|---|
| Eyes: | Flush with water for 15 minutes. |
| Skin: | No first aid should be needed. |
| Inhalation: | No first aid should be needed. Remove to fresh air. |
| Ingestion: | Non-toxic. Give several glasses of water to dilute. |
| Comments: | Treat according to person's condition and specifics of exposure. |

## 5. FIRE-FIGHTING AND EXPLOSION DATA

| | |
|---|---|
| Extinguisher media: | Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials. |
| Flammable limits in air % by volume: | Lower N/A, Upper N/A |
| Auto ignition temperature: | N/A |
| Unusual fire and explosion hazards: | None known |
| Special fire fighting measures: | As with all fires, evacuate personnel to a safe area. Fire fighters should use self-contained breathing equipment and protective clothing. |

## 6. ACCIDENTAL RELEASE MEASURES

Containment/clean up: Clean up remaining materials with a suitable absorbent. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. You will need to determine which federal, state and local laws and regulations are applicable. Section 15 of this MSDS provides information regarding certain federal and state requirements. See section 8 for personal protective equipment for spills.

## 7. HANDLING AND STORAGE

Protect from freezing. Use with adequate ventilation. Avoid eye contact. Keep container closed. Internal consumption not recommended. Avoid spills on hard surfaces, spilled material, even in small quantities, may present a slip hazard.
Use reasonable care and store away from oxidizing materials.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

| | |
|---|---|
| Respiratory Protection: | None required. |
| Ventilation: | Ventilation should be used to maintain exposure below the PEL and TLV. |
| Protective Gloves: | Not required, rubber or vinyl gloves can be used if employees experience skin irritation. Polyvinylchloride. Silver Shield®. 4H®. |
| Eye Protection: | Safety goggles should be worn when splash hazards are present. |

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com).

## 9. PHSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical Form: | Liquid |
| Color: | White |
| Odor: | Some odor |
| pH: | 7 |
| Specific gravity@ 25° C: | 1 |
| Viscosity: | Not determined |
| Freezing/Melting Point: | 0° C (32° F) |
| Boiling point: | > 65°C |
| Flash point: | >100°C (closed cup) |
| Vapor pressure @ 25° C: | Not determined |
| Solubility in water: | Highly soluble |
| Reactivity in water: | N/A |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| Chemical Stability: | Stable |
| Hazardous polymerization: | Hazardous polymerization will not occur. |
| Conditions to avoid: | None |
| Hazardous decomposition products: | Silicone dioxide, carbon dioxide and traces of incompletely burned carbon products. |
| Incompatible Materials to avoid: | Oxidizing agents. |

## 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure.
Inhalation, skin contact, ingestion, eye contact

| | |
|---|---|
| Acute oral toxicity: | LD50: [rat] – Route: oral; dose: >90ml/kg |
| Acute inhalation toxicity: | LC50: Not available |
| Acute dermal toxicity: | Assessment: The substance or mixture has no acute dermal toxicity |
| Carcinogenity: | Not classified based on available information |
| IARC: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| OSHA: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| NTP: | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| Environmental Fate and Distribution: | Complete information is not yet available. |
| Environmental Effects: | Complete information is not yet available. |
| Fate and Effects in Waste Water Treatment Plants: | Complete information is not yet available. |

Ecotoxicity Classification Criteria

| Hazard Parameters (LC50 or EC50) | High | Medium | Low |
|---|---|---|---|
| Acute Aquatic Toxicity (mg/L) | ≤1 | >1 and ≤100 | >100 |
| Acute Terrestrial Toxicity | ≤100 | >100 and ≤ 2000 | >2000 |

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.
This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above.

## 13. DISPOSAL CONSIDERATIONS

**RCRA Hazard Class (40 CFR 261)**
When a decision is made to discard this material, as received, is it classified as a hazardous waste? No.
State of local laws may impose additional regulatory requirements regarding disposal.

## 14. TRANSPORTATION INFORMATION

**Domestic regulation**
**DOT Road Shipment Information (49 CFR 172.101)**
Not regulated as dangerous good.

**International regulation**
**Ocean Shipment (IMDG)**
Not regulated as dangerous good.

**Air Shipment (IATA-DGR)**
Not regulated as dangerous good.

**UNRTDG**
Not regulated as a dangerous good.

## 15. REGULATORY INFORMATION

**EPA SARA Title III Chemical Listings**
**Section 302 Extremely Hazardous Substances (40 CFR 355)**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
**Section 304 CERCLA Hazardous Substances (40 CFR 302)**
Calculated reportable quantity does not exceed reasonably attainable upper limit.
**Section 313 Toxic Chemicals (40 CFR 370)**
None present or none present in regulated quantities. This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**The ingredients of this product are reported in the following inventories:**

| | |
|---|---|
| NZIoC : | All ingredients listed or exempt. |
| AICS : | All ingredients listed or exempt. |
| IECSC : | All ingredients listed or exempt. |
| ENCS/ISHL : | All components are listed on ENCS/ISHL or exempted from inventory listing. |
| PICCS : | All ingredients listed or exempt. |
| TSCA : | All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances. |
| KECI : | All ingredients listed, exempt or notified. |

**Inventories**
AICS (Australia), IECSC (China), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

Brillianize®

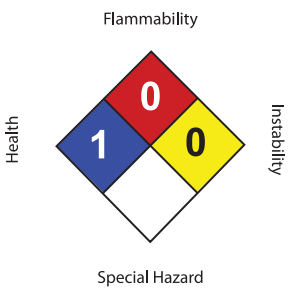
**BRILLIANIZE, INC.**
**Safety Data Sheet**



**BRILLIANIZE, KleenMaster Products**

## 16. OTHER INFORMATION - SPECIAL PRECAUTIONS

NFPA:




HMIS III:

| | |
|---|---|
| Health | 1 |
| Fire | 0 |
| Physical Hazard | 0 |
| Personal Protection | A |

0 = Not significant, 1 = Slight,
2 = Moderate, 3 = High,
4 = Extreme, * = Chronic
A = Safety glasses

| | |
|---|---|
| IPA free: | This mixture contains no isopropyl alcohol. |
| Handling and Storage: | Keep from freezing. This material should be handled and stored per label and other instructions to ensure product integrity. Do not take internally. |
| Other precautions: | Exercise care in using this material with any pressurized systems offering potential for eye or skin injection. Avoid spills on hard surfaces, spilled material, even in small quantities, may present a slip hazard. |

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

N/A = Not Applicable
N/R = Not Regulated
N/E = Not Established
PEL = Permissible Exposure Level.
TLV = Threshold Limit Values
® indicates Registered Trademark.
Date: 17 Feb 2015

# SAFETY DATA SHEET

1315

## Section 1. Identification

**Product name** : KRYLON® Sandable Primer
White

**Product code** : 1315

**Other means of identification** : Not available.

**Product type** : Aerosol.

**Relevant identified uses of the substance or mixture and uses advised against**

Not applicable.

**Manufacturer** : THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

**Emergency telephone number of the company** : (216) 566-2917

**Product Information Telephone Number** : (800) 247-3266

**Regulatory Information Telephone Number** : (216) 566-2902

**Transportation Emergency Telephone Number** : (800) 424-9300

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 36.1%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

## Section 2. Hazards identification

**Hazard statements** : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.

**Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

**CAS number/other identifiers**

## Section 3. Composition/information on ingredients

| Ingredient name | % by weight | CAS number |
|---|---|---|
| Acetone | 36.0 | 67-64-1 |
| Toluene | 19.0 | 108-88-3 |
| Propane | 13.6 | 74-98-6 |
| Butane | 6.4 | 106-97-8 |
| Titanium Dioxide | 5.3 | 13463-67-7 |
| Lt. Aliphatic Hydrocarbon Solvent | 4.1 | 64742-89-8 |
| 2-Methyl-1-propanol | 2.0 | 78-83-1 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

## Section 4. First aid measures

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Acetone | **ACGIH TLV (United States, 4/2014).**<br>TWA: 500 ppm 8 hours.<br>TWA: 1188 mg/m³ 8 hours.<br>STEL: 750 ppm 15 minutes.<br>STEL: 1782 mg/m³ 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 250 ppm 10 hours.<br>TWA: 590 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 2400 mg/m³ 8 hours. |
| Toluene | **OSHA PEL Z2 (United States, 2/2013).**<br>TWA: 200 ppm 8 hours.<br>CEIL: 300 ppm<br>AMP: 500 ppm 10 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 100 ppm 10 hours.<br>TWA: 375 mg/m³ 10 hours.<br>STEL: 150 ppm 15 minutes.<br>STEL: 560 mg/m³ 15 minutes.<br>**ACGIH TLV (United States, 4/2014).**<br>TWA: 20 ppm 8 hours. |
| Propane | **NIOSH REL (United States, 10/2013).**<br>TWA: 1000 ppm 10 hours.<br>TWA: 1800 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 1800 mg/m³ 8 hours. |
| Butane | **NIOSH REL (United States, 10/2013).**<br>TWA: 800 ppm 10 hours.<br>TWA: 1900 mg/m³ 10 hours.<br>**ACGIH TLV (United States, 4/2014).**<br>STEL: 1000 ppm 15 minutes. |
| Titanium Dioxide | **ACGIH TLV (United States, 4/2014).**<br>TWA: 10 mg/m³ 8 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 15 mg/m³ 8 hours. Form: Total dust |
| 2-Methyl-1-propanol | **ACGIH TLV (United States, 4/2014).**<br>TWA: 50 ppm 8 hours.<br>TWA: 152 mg/m³ 8 hours.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 50 ppm 10 hours.<br>TWA: 150 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 300 mg/m³ 8 hours. |

## Section 8. Exposure controls/personal protection

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Not available.

**Odor** : Not available.

**Odor threshold** : Not available.

**pH** : 7

**Melting point** : Not available.

**Boiling point** : Not available.

**Flash point** : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

**Evaporation rate** : 5.6 (butyl acetate = 1)

**Flammability (solid, gas)** : Not available.

## Section 9. Physical and chemical properties

**Lower and upper explosive (flammable) limits** : Lower: 0.9%
Upper: 12.8%

**Vapor pressure** : 13.5 kPa (101.325 mm Hg) [at 20°C]

**Vapor density** : 1.55 [Air = 1]

**Relative density** : 0.81

**Solubility** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Kinematic (room temperature): <0.07 $cm^2/s$ (<7 cSt)
Kinematic (40°C (104°F)): <0.07 $cm^2/s$ (<7 cSt)

**Aerosol product**

**Type of aerosol** : Spray

**Heat of combustion** : 0.00002651 kJ/g

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| Toluene | LC50 Inhalation Vapor | Rat | 49 $g/m^3$ | 4 hours |
| | LD50 Oral | Rat | 636 mg/kg | - |
| Butane | LC50 Inhalation Vapor | Rat | 658000 $mg/m^3$ | 4 hours |
| 2-Methyl-1-propanol | LC50 Inhalation Vapor | Rat | 19200 $mg/m^3$ | 4 hours |
| | LD50 Dermal | Rabbit | 3400 mg/kg | - |
| | LD50 Oral | Rat | 2460 mg/kg | - |

**Irritation/Corrosion**

## Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Acetone | Eyes - Mild irritant | Human | - | 186300 parts per million | - |
| | Eyes - Mild irritant | Rabbit | - | 10 microliters | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 20 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 395 milligrams | - |
| Toluene | Eyes - Mild irritant | Rabbit | - | 0.5 minutes 100 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 870 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |
| | Skin - Mild irritant | Pig | - | 24 hours 250 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 435 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |
| Titanium Dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---|---|---|---|
| Toluene | - | 3 | - |
| Titanium Dioxide | - | 2B | - |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Toluene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Propane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Butane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Lt. Aliphatic Hydrocarbon Solvent | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| 2-Methyl-1-propanol | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

**Specific target organ toxicity (repeated exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 2 | Not determined | Not determined |
| Toluene | Category 2 | Not determined | Not determined |
| Propane | Category 2 | Not determined | Not determined |
| Butane | Category 2 | Not determined | Not determined |
| Lt. Aliphatic Hydrocarbon Solvent | Category 2 | Not determined | Not determined |
| 2-Methyl-1-propanol | Category 2 | Not determined | Not determined |

**Aspiration hazard**

| Name | Result |
|---|---|
| Toluene | ASPIRATION HAZARD - Category 1 |
| Propane | ASPIRATION HAZARD - Category 1 |
| Butane | ASPIRATION HAZARD - Category 1 |
| Lt. Aliphatic Hydrocarbon Solvent | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral<br>Dermal<br>Inhalation (vapors) | 2085.9 mg/kg<br>107126.2 mg/kg<br>604.9 mg/l |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Acetone | Acute EC50 20.565 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute LC50 6000000 µg/l Fresh water | Crustaceans - Gammarus pulex | 48 hours |
| | Acute LC50 10000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 5600 ppm Fresh water | Fish - Poecilia reticulata | 96 hours |
| | Chronic NOEC 4.95 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Chronic NOEC 0.016 ml/L Fresh water | Crustaceans - Daphniidae | 21 days |
| | Chronic NOEC 0.1 ml/L Fresh water | Daphnia - Daphnia magna - Neonate | 21 days |
| | Chronic NOEC 5 µg/l Marine water | Fish - Gasterosteus aculeatus - Larvae | 42 days |
| Toluene | Acute EC50 12500 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 11600 µg/l Fresh water | Crustaceans - Gammarus pseudolimnaeus - Adult | 48 hours |
| | Acute EC50 6000 µg/l Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 5500 µg/l Fresh water | Fish - Oncorhynchus kisutch - Fry | 96 hours |
| | Chronic NOEC 1000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| Titanium Dioxide | Acute LC50 >1000000 µg/l Marine water | Fish - Fundulus heteroclitus | 96 hours |
| Lt. Aliphatic Hydrocarbon Solvent | Acute LC50 >100000 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| 2-Methyl-1-propanol | Acute LC50 600000 µg/l Marine water | Crustaceans - Artemia salina - Nauplii | 48 hours |
| | Acute LC50 1030000 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1330000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 4000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |

### Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Acetone | - | - | Readily |
| Toluene | - | - | Readily |
| 2-Methyl-1-propanol | - | - | Readily |

### Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Toluene | - | 90 | low |
| Titanium Dioxide | - | 352 | low |
| Lt. Aliphatic Hydrocarbon Solvent | - | 10 to 2500 | high |

### Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|---|---|---|---|---|---|
| **UN number** | UN1950 | UN1950 | UN1950 | UN1950 | UN1950 |
| **UN proper shipping name** | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS |
| **Transport hazard class(es)** | 2.1   | 2.1   | 2.1   | 2.1   | 2.1   |
| **Packing group** | - | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. | No. |
| **Additional information** | **Special provisions** LIMITED QUANTITY | **Special provisions** LIMITED QUANTITY | **Special provisions** (ERG#126) | **Special provisions** LIMITED QUANTITY | **Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U |

**Special precautions for user** : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** :

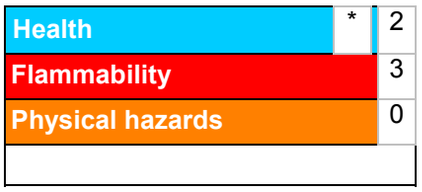
## State regulations

### California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

# Section 16. Other information

### Hazardous Material Information System (U.S.A.)




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

### Notice to reader

**It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.**

MATERIAL SAFETY DATA SHEET

2101
01 00

## Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2101

HMIS CODES

| | |
|---|---|
| Health | 2* |
| Flammability | 4 |
| Reactivity | 0 |

PRODUCT NAME

KRYLON* Interior/Exterior Paint, Cherry Red

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

23-OCT-04

INFORMATION TELEPHONE NO.

(800) 832-2541

## Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

| % by WT | CAS No. | INGREDIENT | | | UNITS | VAPOR PRESSURE |
|---|---|---|---|---|---|---|
| 14 | 74-98-6 | Propane | | | | |
| | | | ACGIH TLV | 2500 | ppm | 760 mm |
| | | | OSHA PEL | 1000 | ppm | |
| 6 | 106-97-8 | Butane | | | | |
| | | | ACGIH TLV | 800 | ppm | 760 mm |
| | | | OSHA PEL | 800 | ppm | |
| 1 | 100-41-4 | Ethylbenzene | | | | |
| | | | ACGIH TLV | 100 | ppm | 7.1 mm |
| | | | ACGIH TLV | 125 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 125 | ppm STEL | |
| 8 | 1330-20-7 | Xylene | | | | |
| | | | ACGIH TLV | 100 | ppm | 5.9 mm |
| | | | ACGIH TLV | 150 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 150 | ppm STEL | |
| 39 | 67-64-1 | Acetone | | | | |
| | | | ACGIH TLV | 500 | ppm | 180 mm |
| | | | ACGIH TLV | 750 | ppm STEL | |
| | | | OSHA PEL | 1000 | ppm | |
| 8 | 78-93-3 | Methyl Ethyl Ketone | | | | |
| | | | ACGIH TLV | 200 | ppm | 70 mm |
| | | | ACGIH TLV | 300 | ppm STEL | |
| | | | OSHA PEL | 200 | ppm | |
| | | | OSHA PEL | 300 | ppm STEL | |
| 4 | 108-10-1 | Methyl Isobutyl Ketone | | | | |
| | | | ACGIH TLV | 50 | ppm | 16 mm |
| | | | ACGIH TLV | 75 | ppm STEL | |
| | | | OSHA PEL | 50 | ppm | |
| | | | OSHA PEL | 75 | ppm STEL | |
| 7 | 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | |
| | | | ACGIH TLV | Not Available | | 1.8 mm |
| | | | OSHA PEL | Not Available | | |

Continued on page 2

## Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

## Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

## Section 5 -- FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL |
|---|---|---|
| Propellant < 0 F | 1.0 | 13.1 |

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Continued on page 3

## Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

## Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

Continued on page 4

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| PRODUCT WEIGHT | 6.36 lb/gal | 761 g/l |
| SPECIFIC GRAVITY | 0.77 | |
| BOILING POINT | <0 - 302 F | <-18 - 150 C |
| MELTING POINT | Not Available | |
| VOLATILE VOLUME | 92 % | |
| EVAPORATION RATE | Faster than ether | |
| VAPOR DENSITY | Heavier than air | |
| SOLUBILITY IN WATER | N.A. | |
| pH | 7.0 | |

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

Volatile Weight 49.06 % Less Water and Federally Exempt Solvents

## Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

## Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Continued on page 5

TOXICOLOGY DATA

| CAS No. | Ingredient Name | | | | |
|---|---|---|---|---|---|
| 74-98-6 | Propane | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 106-97-8 | Butane | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 100-41-4 | Ethylbenzene | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 3500 mg/kg |
| 1330-20-7 | Xylene | | | | |
| | | LC50 | RAT | 4HR | 5000 ppm |
| | | LD50 | RAT | | 4300 mg/kg |
| 67-64-1 | Acetone | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 5800 mg/kg |
| 78-93-3 | Methyl Ethyl Ketone | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 2740 mg/kg |
| 108-10-1 | Methyl Isobutyl Ketone | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 2080 mg/kg |
| 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 8500 mg/kg |

## Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

## Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## Section 14 -- TRANSPORT INFORMATION

No data available.

## Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

Continued on page 6

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 1 | |
| 1330-20-7 | Xylene | 8 | |
| 78-93-3 | Methyl Ethyl Ketone | 8 | |
| 108-10-1 | Methyl Isobutyl Ketone | 4 | |

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

1502
01 00

## Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

1502

HMIS CODES

| | |
|---|---|
| Health | 2* |
| Flammability | 4 |
| Reactivity | 0 |

PRODUCT NAME

KRYLON* Interior/Exterior Paint, Flat White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

23-OCT-04

INFORMATION TELEPHONE NO.

(800) 832-2541

## Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

| % by WT | CAS No. | INGREDIENT | | | UNITS | VAPOR PRESSURE |
|---|---|---|---|---|---|---|
| 14 | 74-98-6 | Propane | | | | |
| | | | ACGIH TLV | 2500 | ppm | 760 mm |
| | | | OSHA PEL | 1000 | ppm | |
| 6 | 106-97-8 | Butane | | | | |
| | | | ACGIH TLV | 800 | ppm | 760 mm |
| | | | OSHA PEL | 800 | ppm | |
| 1 | 100-41-4 | Ethylbenzene | | | | |
| | | | ACGIH TLV | 100 | ppm | 7.1 mm |
| | | | ACGIH TLV | 125 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 125 | ppm STEL | |
| 7 | 1330-20-7 | Xylene | | | | |
| | | | ACGIH TLV | 100 | ppm | 5.9 mm |
| | | | ACGIH TLV | 150 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 150 | ppm STEL | |
| 1 | 71-36-3 | 1-Butanol | | | | |
| | | | ACGIH TLV | 20 | ppm (Skin) | 5.5 mm |
| | | | OSHA PEL | 50 | ppm (Skin) CEILING | |
| 41 | 67-64-1 | Acetone | | | | |
| | | | ACGIH TLV | 500 | ppm | 180 mm |
| | | | ACGIH TLV | 750 | ppm STEL | |
| | | | OSHA PEL | 1000 | ppm | |
| 4 | 78-93-3 | Methyl Ethyl Ketone | | | | |
| | | | ACGIH TLV | 200 | ppm | 70 mm |
| | | | ACGIH TLV | 300 | ppm STEL | |
| | | | OSHA PEL | 200 | ppm | |
| | | | OSHA PEL | 300 | ppm STEL | |
| 7 | 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | |
| | | | ACGIH TLV | Not Available | | 1.8 mm |
| | | | OSHA PEL | Not Available | | |
| 1 | 112926-00-8 | Amorphous Precipitated Silica | | | | |
| | | | ACGIH TLV | 10 | mg/m3 as Dust | |
| | | | OSHA PEL | 6 | mg/m3 as Dust | |

Continued on page 2

| | | | | |
|---|---|---|---|---|
| 7 | 13463-67-7 Titanium Dioxide | | | |
| | | ACGIH TLV | 10 | mg/m3 as Dust |
| | | OSHA PEL | 10 | mg/m3 Total Dust |
| | | OSHA PEL | 5 | mg/m3 Respirable Fraction |

## Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

## Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

## Section 5 -- FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL |
|---|---|---|
| Propellant < 0 F | 1.0 | 13.1 |

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Continued on page 3

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

## Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

Continued on page 4

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| PRODUCT WEIGHT | 6.69 lb/gal | 801 g/l |
| SPECIFIC GRAVITY | 0.81 | |
| BOILING POINT | <0 - 302 F | <-18 - 150 C |
| MELTING POINT | Not Available | |
| VOLATILE VOLUME | 90 % | |
| EVAPORATION RATE | Faster than ether | |
| VAPOR DENSITY | Heavier than air | |
| SOLUBILITY IN WATER | N.A. | |
| pH | 7.0 | |

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

Volatile Weight 40.53 % Less Water and Federally Exempt Solvents

## Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Continued on page 5

## Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming and reproductive systems.

Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

| CAS No. | Ingredient Name | | | | | |
|---|---|---|---|---|---|---|
| 74-98-6 | Propane | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | Not Available | |
| 106-97-8 | Butane | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | Not Available | |
| 100-41-4 | Ethylbenzene | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | 3500 | mg/kg |
| 1330-20-7 | Xylene | | | | | |
| | | LC50 | RAT | 4HR | 5000 | ppm |
| | | LD50 | RAT | | 4300 | mg/kg |
| 71-36-3 | 1-Butanol | | | | | |
| | | LC50 | RAT | 4HR | 8000 | ppm |
| | | LD50 | RAT | | 790 | mg/kg |
| 67-64-1 | Acetone | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | 5800 | mg/kg |
| 78-93-3 | Methyl Ethyl Ketone | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | 2740 | mg/kg |
| 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | 8500 | mg/kg |
| 112926-00-8 | Amorphous Precipitated Silica | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | Not Available | |
| 13463-67-7 | Titanium Dioxide | | | | | |
| | | LC50 | RAT | 4HR | Not Available | |
| | | LD50 | RAT | | Not Available | |

Continued on page 6

## Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

## Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## Section 14 -- TRANSPORT INFORMATION

No data available.

## Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 1 | |
| 1330-20-7 | Xylene | 7 | |
| 71-36-3 | 1-Butanol | 1 | |
| 78-93-3 | Methyl Ethyl Ketone | 4 | |

CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# MATERIAL SAFETY DATA SHEET

**1501**
**07 00**

**DATE OF PREPARATION**
Apr 3, 2010

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
1501
**PRODUCT NAME**
KRYLON® Interior/Exterior Paint, Glossy White (OSHA White)
**MANUFACTURER'S NAME**
THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (800) 247-3266<br>www.kpg-industrial.com |
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **14** | **74-98-6** | **Propane** | | |
| | | ACGIH TLV | 2500 PPM | 760 mm |
| | | OSHA PEL | 1000 PPM | |
| **6** | **106-97-8** | **Butane** | | |
| | | ACGIH TLV | 800 PPM | 760 mm |
| | | OSHA PEL | 800 PPM | |
| **1** | **100-41-4** | **Ethylbenzene** | | |
| | | ACGIH TLV | 100 PPM | 7.1 mm |
| | | ACGIH TLV | 125 PPM STEL | |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 125 PPM STEL | |
| **7** | **1330-20-7** | **Xylene** | | |
| | | ACGIH TLV | 100 PPM | 5.9 mm |
| | | ACGIH TLV | 150 PPM STEL | |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 150 PPM STEL | |
| **36** | **67-64-1** | **Acetone** | | |
| | | ACGIH TLV | 500 PPM | 180 mm |
| | | ACGIH TLV | 750 PPM STEL | |
| | | OSHA PEL | 1000 PPM | |
| **14** | **78-93-3** | **Methyl Ethyl Ketone** | | |
| | | ACGIH TLV | 200 PPM | 70 mm |
| | | ACGIH TLV | 300 PPM STEL | |
| | | OSHA PEL | 200 PPM | |
| | | OSHA PEL | 300 PPM STEL | |
| **6** | **108-65-6** | **1-Methoxy-2-Propanol Acetate** | | |
| | | ACGIH TLV | Not Available | 1.8 mm |
| | | OSHA PEL | Not Available | |
| **6** | **13463-67-7** | **Titanium Dioxide** | | |
| | | ACGIH TLV | 10 mg/m3 as Dust | |
| | | OSHA PEL | 10 mg/m3 Total Dust | |
| | | OSHA PEL | 5 mg/m3 Respirable Fraction | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2* |
| **Flammability** | 3 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**

**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the reproductive system

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

None generally recognized.

**CANCER INFORMATION**

For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | EXTINGUISHING MEDIA |
|---|---|---|---|
| Propellant < 0 °F | 1.0 | 13.1 | Carbon Dioxide, Dry Chemical, Foam |

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

- Remove all sources of ignition. Ventilate the area.
- Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Available

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 6.58 lb/gal | 788 g/l |
| **SPECIFIC GRAVITY** | 0.79 | |
| **BOILING POINT** | <0 - 302 °F | <-18 - 150 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 92% | |
| **EVAPORATION RATE** | Faster than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | N.A. | |
| **pH** | 7.0 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

Volatile Weight 48.81% Less Water and Federally Exempt Solvents

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

1501

**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| 74-98-6 | Propane | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 106-97-8 | Butane | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 100-41-4 | Ethylbenzene | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 3500 mg/kg |
| 1330-20-7 | Xylene | | | |
| | | LC50 RAT | 4HR | 5000 ppm |
| | | LD50 RAT | | 4300 mg/kg |
| 67-64-1 | Acetone | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 5800 mg/kg |
| 78-93-3 | Methyl Ethyl Ketone | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 2740 mg/kg |
| 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 8500 mg/kg |
| 13463-67-7 | Titanium Dioxide | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

**US Ground (DOT)**

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

**Canada (TDG)**

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

**IMO**

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 1 | |
| 1330-20-7 | Xylene | 7 | |

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

1501

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# MATERIAL SAFETY DATA SHEET

**1601**
**05 00**

**DATE OF PREPARATION**
Sep 29, 2014

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
1601

**PRODUCT NAME**
KRYLON® Interior/Exterior Paint, Gloss Black

**MANUFACTURER'S NAME**
THE SHERWIN-WILLIAMS COMPANY
KRYLON INDUSTRIAL PRODUCTS GROUP
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (800) 247-3266<br>www.kpg-industrial.com |
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| 14 | 74-98-6 | **Propane** | | |
| | | ACGIH TLV | 1000 PPM | 760 mm |
| | | OSHA PEL | 1000 PPM | |
| 6 | 106-97-8 | **Butane** | | |
| | | ACGIH TLV | 1000 PPM | 760 mm |
| | | OSHA PEL | 800 PPM | |
| 1 | 100-41-4 | **Ethylbenzene** | | |
| | | ACGIH TLV | 20 PPM | 7.1 mm |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 125 PPM STEL | |
| 8 | 1330-20-7 | **Xylene** | | |
| | | ACGIH TLV | 100 PPM | 5.9 mm |
| | | ACGIH TLV | 150 PPM STEL | |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 150 PPM STEL | |
| 39 | 67-64-1 | **Acetone** | | |
| | | ACGIH TLV | 500 PPM | 180 mm |
| | | ACGIH TLV | 750 PPM STEL | |
| | | OSHA PEL | 1000 PPM | |
| 15 | 78-93-3 | **Methyl Ethyl Ketone** | | |
| | | ACGIH TLV | 200 PPM | 90.6 mm |
| | | ACGIH TLV | 300 PPM STEL | |
| | | OSHA PEL | 200 PPM | |
| | | OSHA PEL | 300 PPM STEL | |
| 6 | 108-65-6 | **1-Methoxy-2-Propanol Acetate** | | |
| | | ACGIH TLV | Not Available | 1.8 mm |
| | | OSHA PEL | Not Available | |
| 0.4 | 1333-86-4 | **Carbon Black** | | |
| | | ACGIH TLV | 3.5 MG/M3 | |
| | | OSHA PEL | 3.5 MG/M3 | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2* |
| **Flammability** | 3 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**

**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the reproductive system

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

None generally recognized.

**CANCER INFORMATION**

For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | EXTINGUISHING MEDIA |
|---|---|---|---|
| Propellant < 0 °F | 1.0 | 13.1 | Carbon Dioxide, Dry Chemical, Foam |

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Available

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 6.30 lb/gal | 754 g/l |
| **SPECIFIC GRAVITY** | 0.76 | |
| **BOILING POINT** | <0 - 302 °F | <-18 - 150 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 93% | |
| **EVAPORATION RATE** | Faster than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |
| **pH** | 7.0 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

Volatile Weight 51.08% Less Water and Federally Exempt Solvents

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

1601

**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| 74-98-6 | Propane | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 106-97-8 | Butane | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 100-41-4 | Ethylbenzene | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 3500 mg/kg |
| 1330-20-7 | Xylene | | | |
| | | LC50 RAT | 4HR | 5000 ppm |
| | | LD50 RAT | | 4300 mg/kg |
| 67-64-1 | Acetone | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 5800 mg/kg |
| 78-93-3 | Methyl Ethyl Ketone | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 2740 mg/kg |
| 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 8500 mg/kg |
| 1333-86-4 | Carbon Black | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

**US Ground (DOT)**

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

**Canada (TDG)**

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

**IMO**

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

**IATA/ICAO**

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 1 | |
| 1330-20-7 | Xylene | 8 | |

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

1601

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# SAFETY DATA SHEET

1613

## Section 1. Identification

**Product name** : KRYLON® Interior/Exterior Paint
Semi Flat Black

**Product code** : 1613

**Other means of identification** : Not available.

**Product type** : Aerosol.

**Relevant identified uses of the substance or mixture and uses advised against**

Not applicable.

**Manufacturer** : THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

**Emergency telephone number of the company** : (216) 566-2917

**Product Information Telephone Number** : (800) 247-3266

**Regulatory Information Telephone Number** : (216) 566-2902

**Transportation Emergency Telephone Number** : (800) 424-9300

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 21.8%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

## Section 2. Hazards identification

**Hazard statements** : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.

**Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

**CAS number/other identifiers**

## Section 3. Composition/information on ingredients

| Ingredient name | % by weight | CAS number |
|---|---|---|
| Acetone | 42.2 | 67-64-1 |
| Propane | 15.0 | 74-98-6 |
| Methyl Ethyl Ketone | 11.1 | 78-93-3 |
| Xylene | 8.2 | 1330-20-7 |
| Butane | 7.0 | 106-97-8 |
| Ethylbenzene | 1.5 | 100-41-4 |
| Methyl Isobutyl Ketone | 1.1 | 108-10-1 |
| Carbon Black | 1.0 | 1333-86-4 |
| Toluene | 0.2 | 108-88-3 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

## Section 4. First aid measures

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Acetone | **ACGIH TLV (United States, 4/2014).**<br>TWA: 500 ppm 8 hours.<br>TWA: 1188 mg/m³ 8 hours.<br>STEL: 750 ppm 15 minutes.<br>STEL: 1782 mg/m³ 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 250 ppm 10 hours.<br>TWA: 590 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 2400 mg/m³ 8 hours. |
| Propane | **NIOSH REL (United States, 10/2013).**<br>TWA: 1000 ppm 10 hours.<br>TWA: 1800 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 1800 mg/m³ 8 hours. |
| Methyl Ethyl Ketone | **ACGIH TLV (United States, 4/2014).**<br>TWA: 200 ppm 8 hours.<br>TWA: 590 mg/m³ 8 hours.<br>STEL: 300 ppm 15 minutes.<br>STEL: 885 mg/m³ 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 200 ppm 10 hours.<br>TWA: 590 mg/m³ 10 hours.<br>STEL: 300 ppm 15 minutes.<br>STEL: 885 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 200 ppm 8 hours.<br>TWA: 590 mg/m³ 8 hours. |
| Xylene | **ACGIH TLV (United States, 4/2014).**<br>TWA: 100 ppm 8 hours.<br>TWA: 434 mg/m³ 8 hours.<br>STEL: 150 ppm 15 minutes.<br>STEL: 651 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 435 mg/m³ 8 hours. |
| Butane | **NIOSH REL (United States, 10/2013).**<br>TWA: 800 ppm 10 hours.<br>TWA: 1900 mg/m³ 10 hours.<br>**ACGIH TLV (United States, 4/2014).**<br>STEL: 1000 ppm 15 minutes. |
| Ethylbenzene | **ACGIH TLV (United States, 4/2014).**<br>TWA: 20 ppm 8 hours.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 100 ppm 10 hours.<br>TWA: 435 mg/m³ 10 hours.<br>STEL: 125 ppm 15 minutes. |

## Section 8. Exposure controls/personal protection

| | |
|---|---|
| | STEL: 545 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 435 mg/m³ 8 hours. |
| Methyl Isobutyl Ketone | **ACGIH TLV (United States, 4/2014).**<br>TWA: 20 ppm 8 hours.<br>STEL: 75 ppm 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 50 ppm 10 hours.<br>TWA: 205 mg/m³ 10 hours.<br>STEL: 75 ppm 15 minutes.<br>STEL: 300 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 410 mg/m³ 8 hours. |
| Carbon Black | **NIOSH REL (United States, 10/2013).**<br>TWA: 3.5 mg/m³ 10 hours.<br>TWA: 0.1 mg of PAHs/cm³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 3.5 mg/m³ 8 hours.<br>**ACGIH TLV (United States, 4/2014).**<br>TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction |
| Toluene | **OSHA PEL Z2 (United States, 2/2013).**<br>TWA: 200 ppm 8 hours.<br>CEIL: 300 ppm<br>AMP: 500 ppm 10 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 100 ppm 10 hours.<br>TWA: 375 mg/m³ 10 hours.<br>STEL: 150 ppm 15 minutes.<br>STEL: 560 mg/m³ 15 minutes.<br>**ACGIH TLV (United States, 4/2014).**<br>TWA: 20 ppm 8 hours. |

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

## Section 8. Exposure controls/personal protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Not available.

**Odor** : Not available.

**Odor threshold** : Not available.

**pH** : 7

**Melting point** : Not available.

**Boiling point** : Not available.

**Flash point** : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

**Evaporation rate** : 5.6 (butyl acetate = 1)

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Lower: 1%
Upper: 13.1%

**Vapor pressure** : 13.5 kPa (101.325 mm Hg) [at 20°C]

**Vapor density** : 1.55 [Air = 1]

**Relative density** : 0.74

**Solubility** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Kinematic (room temperature): <0.07 $cm^2/s$ (<7 cSt)
Kinematic (40°C (104°F)): <0.07 $cm^2/s$ (<7 cSt)

**Aerosol product**

**Type of aerosol** : Spray

**Heat of combustion** : 0.00002959 kJ/g

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| Methyl Ethyl Ketone | LD50 Dermal | Rabbit | 6480 mg/kg | - |
| | LD50 Oral | Rat | 2737 mg/kg | - |
| Xylene | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| Butane | LC50 Inhalation Vapor | Rat | 658000 mg/m³ | 4 hours |
| Ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| Methyl Isobutyl Ketone | LD50 Oral | Rat | 2080 mg/kg | - |
| Carbon Black | LD50 Oral | Rat | >15400 mg/kg | - |
| Toluene | LC50 Inhalation Vapor | Rat | 49 g/m³ | 4 hours |
| | LD50 Oral | Rat | 636 mg/kg | - |

#### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Acetone | Eyes - Mild irritant | Human | - | 186300 parts per million | - |
| | Eyes - Mild irritant | Rabbit | - | 10 microliters | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 20 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 395 milligrams | - |
| Methyl Ethyl Ketone | Skin - Mild irritant | Rabbit | - | 24 hours 14 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| Xylene | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 milligrams | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 100 Percent | - |

## Section 11. Toxicological information

| | | | | | |
|---|---|---|---|---|---|
| Ethylbenzene | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 milligrams | - |
| Methyl Isobutyl Ketone | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 microliters | - |
| | Eyes - Severe irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| Toluene | Eyes - Mild irritant | Rabbit | - | 0.5 minutes 100 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 870 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |
| | Skin - Mild irritant | Pig | - | 24 hours 250 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 435 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---|---|---|---|
| Xylene | - | 3 | - |
| Ethylbenzene | - | 2B | - |
| Methyl Isobutyl Ketone | - | 2B | - |
| Carbon Black | - | 2B | - |
| Toluene | - | 3 | - |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Propane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Methyl Ethyl Ketone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

## Section 11. Toxicological information

| | | | |
|---|---|---|---|
| Xylene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Butane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Ethylbenzene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Methyl Isobutyl Ketone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Toluene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

**Specific target organ toxicity (repeated exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 2 | Not determined | Not determined |
| Propane | Category 2 | Not determined | Not determined |
| Methyl Ethyl Ketone | Category 2 | Not determined | Not determined |
| Xylene | Category 2 | Not determined | Not determined |
| Butane | Category 2 | Not determined | Not determined |
| Ethylbenzene | Category 2 | Not determined | Not determined |
| Methyl Isobutyl Ketone | Category 2 | Not determined | Not determined |
| Toluene | Category 2 | Not determined | Not determined |

**Aspiration hazard**

| Name | Result |
|---|---|
| Propane | ASPIRATION HAZARD - Category 1 |
| Xylene | ASPIRATION HAZARD - Category 1 |
| Butane | ASPIRATION HAZARD - Category 1 |
| Ethylbenzene | ASPIRATION HAZARD - Category 1 |
| Toluene | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 11368.9 mg/kg |
| Inhalation (gases) | 47602.8 ppm |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Acetone | Acute EC50 20.565 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute LC50 6000000 µg/l Fresh water | Crustaceans - Gammarus pulex | 48 hours |
| | Acute LC50 10000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 5600 ppm Fresh water | Fish - Poecilia reticulata | 96 hours |
| | Chronic NOEC 4.95 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Chronic NOEC 0.016 ml/L Fresh water | Crustaceans - Daphniidae | 21 days |
| | Chronic NOEC 0.1 ml/L Fresh water | Daphnia - Daphnia magna - Neonate | 21 days |
| | Chronic NOEC 5 µg/l Marine water | Fish - Gasterosteus aculeatus - Larvae | 42 days |
| Methyl Ethyl Ketone | Acute EC50 >500000 µg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute EC50 5091000 µg/l Fresh water | Daphnia - Daphnia magna - Larvae | 48 hours |
| | Acute LC50 3220000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| Xylene | Acute LC50 8500 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| | Acute LC50 13400 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| Ethylbenzene | Acute EC50 4600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 3600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute EC50 6530 µg/l Fresh water | Crustaceans - Artemia sp. - Nauplii | 48 hours |
| | Acute EC50 2930 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 4200 µg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| Methyl Isobutyl Ketone | Acute LC50 505000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Chronic NOEC 78 mg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Chronic NOEC 168 mg/l Fresh water | Fish - Pimephales promelas - Embryo | 33 days |
| Toluene | Acute EC50 12500 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 11600 µg/l Fresh water | Crustaceans - Gammarus pseudolimnaeus - Adult | 48 hours |
| | Acute EC50 6000 µg/l Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 5500 µg/l Fresh water | Fish - Oncorhynchus kisutch - Fry | 96 hours |
| | Chronic NOEC 1000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |

### Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Acetone | - | - | Readily |
| Methyl Ethyl Ketone | - | - | Readily |
| Xylene | - | - | Readily |
| Ethylbenzene | - | - | Readily |
| Methyl Isobutyl Ketone | - | - | Readily |
| Toluene | - | - | Readily |

### Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Xylene | - | 8.1 to 25.9 | low |
| Toluene | - | 90 | low |

## Section 12. Ecological information

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|---|---|---|---|---|---|
| **UN number** | UN1950 | UN1950 | UN1950 | UN1950 | UN1950 |
| **UN proper shipping name** | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS |
| **Transport hazard class(es)** | 2.1   | 2.1   | 2.1   | 2.1   | 2.1   |
| **Packing group** | - | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. | No. |
| **Additional information** | **Special provisions** LIMITED QUANTITY | **Special provisions** LIMITED QUANTITY | **Special provisions** (ERG#126) | **Special provisions** LIMITED QUANTITY | **Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U |

**Special precautions for user** : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** :

**State regulations**

**California Prop. 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)**

| | | |
|---|---|---|
| Health | * | 2 |
| Flammability | | 3 |
| Physical hazards | | 0 |

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**Notice to reader**

**It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.**

# MATERIAL SAFETY DATA SHEET

**1401**
**03 00**

**DATE OF PREPARATION**
Jul 20, 2014

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
1401
**PRODUCT NAME**
KRYLON® Metallics, Bright Silver
**MANUFACTURER'S NAME**
Krylon Products Group
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (800) 457-9566<br>www.krylon.com |
| **Regulatory Information** | (216) 566-2902 |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **18** | **74-98-6** | **Propane** | | |
| | | ACGIH TLV | 1000 PPM | 760 mm |
| | | OSHA PEL | 1000 PPM | |
| **17** | **64742-89-8** | **Lt. Aliphatic Hydrocarbon Solvent** | | |
| | | ACGIH TLV | 300 PPM | 12 mm |
| | | OSHA PEL | 300 PPM | |
| **1** | **64742-88-7** | **Med. Aliphatic Hydrocarbon Solvent** | | |
| | | ACGIH TLV | 100 PPM | 1.27 mm |
| | | OSHA PEL | 100 PPM | |
| **4** | **108-88-3** | **Toluene** | | |
| | | ACGIH TLV | 20 PPM | 22 mm |
| | | OSHA PEL | 100 ppm (Skin) | |
| | | OSHA PEL | 150 ppm (Skin) STEL | |
| **0.7** | **100-41-4** | **Ethylbenzene** | | |
| | | ACGIH TLV | 20 PPM | 7.1 mm |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 125 PPM STEL | |
| **4** | **1330-20-7** | **Xylene** | | |
| | | ACGIH TLV | 100 PPM | 5.9 mm |
| | | ACGIH TLV | 150 PPM STEL | |
| | | OSHA PEL | 100 PPM | |
| | | OSHA PEL | 150 PPM STEL | |
| **47** | **67-64-1** | **Acetone** | | |
| | | ACGIH TLV | 500 PPM | 180 mm |
| | | ACGIH TLV | 750 PPM STEL | |
| | | OSHA PEL | 1000 PPM | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.
**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2* |
| **Flammability** | 4 |
| **Reactivity** | 1 |

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the cardiovascular system
- the reproductive system

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

None generally recognized.

**CANCER INFORMATION**

For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | EXTINGUISHING MEDIA |
|---|---|---|---|
| Propellant < 0 °F | 0.9 | 12.8 | Carbon Dioxide, Dry Chemical, Foam |

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Available

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 6.16 lb/gal | 737 g/l |
| **SPECIFIC GRAVITY** | 0.74 | |
| **BOILING POINT** | <0 - 395 °F | <-18 - 201 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 96% | |
| **EVAPORATION RATE** | Faster than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |
| **pH** | 7.0 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

Volatile Weight 45.25% Less Water and Federally Exempt Solvents

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

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**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| 74-98-6 | Propane | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 64742-89-8 | Lt. Aliphatic Hydrocarbon Solvent | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 64742-88-7 | Med. Aliphatic Hydrocarbon Solvent | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| 108-88-3 | Toluene | | | |
| | | LC50 RAT | 4HR | 4000 ppm |
| | | LD50 RAT | | 5000 mg/kg |
| 100-41-4 | Ethylbenzene | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 3500 mg/kg |
| 1330-20-7 | Xylene | | | |
| | | LC50 RAT | 4HR | 5000 ppm |
| | | LD50 RAT | | 4300 mg/kg |
| 67-64-1 | Acetone | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 5800 mg/kg |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

**US Ground (DOT)**

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

**Canada (TDG)**

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

**IMO**

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

**IATA/ICAO**

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 108-88-3 | Toluene | 4 | |
| 100-41-4 | Ethylbenzene | 0.6 | |
| 1330-20-7 | Xylene | 4 | |

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

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## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

MATERIAL SAFETY DATA SHEET

2501
02 00

## Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

2501

HMIS CODES

| | |
|---|---|
| Health | 2* |
| Flammability | 4 |
| Reactivity | 0 |

PRODUCT NAME

KRYLON* Interior/Exterior Paint, Leather Brown

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
KRYLON Products Group
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

01-JUL-06

INFORMATION TELEPHONE NO.

(800) 832-2541

## Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

| % by WT | CAS No. | INGREDIENT | | | UNITS | VAPOR PRESSURE |
|---|---|---|---|---|---|---|
| 14 | 74-98-6 | Propane | | | | |
| | | | ACGIH TLV | 2500 | ppm | 760 mm |
| | | | OSHA PEL | 1000 | ppm | |
| 6 | 106-97-8 | Butane | | | | |
| | | | ACGIH TLV | 800 | ppm | 760 mm |
| | | | OSHA PEL | 800 | ppm | |
| 1 | 100-41-4 | Ethylbenzene | | | | |
| | | | ACGIH TLV | 100 | ppm | 7.1 mm |
| | | | ACGIH TLV | 125 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 125 | ppm STEL | |
| 8 | 1330-20-7 | Xylene | | | | |
| | | | ACGIH TLV | 100 | ppm | 5.9 mm |
| | | | ACGIH TLV | 150 | ppm STEL | |
| | | | OSHA PEL | 100 | ppm | |
| | | | OSHA PEL | 150 | ppm STEL | |
| 39 | 67-64-1 | Acetone | | | | |
| | | | ACGIH TLV | 500 | ppm | 180 mm |
| | | | ACGIH TLV | 750 | ppm STEL | |
| | | | OSHA PEL | 1000 | ppm | |
| 14 | 78-93-3 | Methyl Ethyl Ketone | | | | |
| | | | ACGIH TLV | 200 | ppm | 70 mm |
| | | | ACGIH TLV | 300 | ppm STEL | |
| | | | OSHA PEL | 200 | ppm | |
| | | | OSHA PEL | 300 | ppm STEL | |
| 6 | 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | |
| | | | ACGIH TLV | Not Available | | 1.8 mm |
| | | | OSHA PEL | Not Available | | |

Continued on page 2

## Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

## Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

## Section 5 -- FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL |
|---|---|---|
| Propellant < 0 F | 1.0 | 13.1 |

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Continued on page 3

## Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

## Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

## Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

Continued on page 4

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| PRODUCT WEIGHT | 6.36 lb/gal | 761 g/l |
| SPECIFIC GRAVITY | 0.77 | |
| BOILING POINT | <0 - 302 F | <-18 - 150 C |
| MELTING POINT | Not Available | |
| VOLATILE VOLUME | 93 % | |
| EVAPORATION RATE | Faster than ether | |
| VAPOR DENSITY | Heavier than air | |
| SOLUBILITY IN WATER | N.A. | |
| pH | 7.0 | |

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 50.74% Less Water and Federally Exempt Solvents

## Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

## Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, blood forming and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Continued on page 5

TOXICOLOGY DATA

| CAS No. | Ingredient Name | | | | |
|---|---|---|---|---|---|
| 74-98-6 | Propane | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 106-97-8 | Butane | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 100-41-4 | Ethylbenzene | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 3500 mg/kg |
| 1330-20-7 | Xylene | | | | |
| | | LC50 | RAT | 4HR | 5000 ppm |
| | | LD50 | RAT | | 4300 mg/kg |
| 67-64-1 | Acetone | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 5800 mg/kg |
| 78-93-3 | Methyl Ethyl Ketone | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 2740 mg/kg |
| 108-65-6 | 1-Methoxy-2-Propanol Acetate | | | | |
| | | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 8500 mg/kg |

## Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

## Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## Section 14 -- TRANSPORT INFORMATION

No data available.

## Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|
| 100-41-4 | Ethylbenzene | 1 | |
| 1330-20-7 | Xylene | 8 | |

Continued on page 6

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

1813

## Section 1. Identification

**Product name** : KRYLON® OSHA Colors
Safety Yellow

**Product code** : 1813

**Other means of identification** : Not available.

**Product type** : Aerosol.

**Relevant identified uses of the substance or mixture and uses advised against**

Not applicable.

**Manufacturer** : Krylon Products Group
Cleveland, OH 44115

**Emergency telephone number of the company** : (216) 566-2917

**Product Information Telephone Number** : (800) 457-9566

**Regulatory Information Telephone Number** : (216) 566-2902

**Transportation Emergency Telephone Number** : (800) 424-9300

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13.6%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

## Section 2. Hazards identification

**Hazard statements** : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

**Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

**CAS number/other identifiers**

## Section 3. Composition/information on ingredients

| Ingredient name | % by weight | CAS number |
|---|---|---|
| Acetone | ≥25 - <50 | 67-64-1 |
| Propane | ≥10 - <25 | 74-98-6 |
| Methyl Ethyl Ketone | ≥10 - <25 | 78-93-3 |
| Xylene | ≥5 - <10 | 1330-20-7 |
| Butane | ≥5 - <10 | 106-97-8 |
| Titanium Dioxide | ≥1 - <3 | 13463-67-7 |
| Ethylbenzene | ≥1 - <3 | 100-41-4 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

## Section 4. First aid measures

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Acetone | **ACGIH TLV (United States, 3/2015).**<br>TWA: 250 ppm 8 hours.<br>STEL: 500 ppm 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 250 ppm 10 hours.<br>TWA: 590 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 2400 mg/m³ 8 hours. |
| Propane | **NIOSH REL (United States, 10/2013).**<br>TWA: 1000 ppm 10 hours.<br>TWA: 1800 mg/m³ 10 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 1000 ppm 8 hours.<br>TWA: 1800 mg/m³ 8 hours. |
| Methyl Ethyl Ketone | **ACGIH TLV (United States, 3/2015).**<br>TWA: 200 ppm 8 hours.<br>TWA: 590 mg/m³ 8 hours.<br>STEL: 300 ppm 15 minutes.<br>STEL: 885 mg/m³ 15 minutes.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 200 ppm 10 hours.<br>TWA: 590 mg/m³ 10 hours.<br>STEL: 300 ppm 15 minutes.<br>STEL: 885 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 200 ppm 8 hours.<br>TWA: 590 mg/m³ 8 hours. |
| Xylene | **ACGIH TLV (United States, 3/2015).**<br>TWA: 100 ppm 8 hours.<br>TWA: 434 mg/m³ 8 hours.<br>STEL: 150 ppm 15 minutes.<br>STEL: 651 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 435 mg/m³ 8 hours. |
| Butane | **NIOSH REL (United States, 10/2013).**<br>TWA: 800 ppm 10 hours.<br>TWA: 1900 mg/m³ 10 hours.<br>**ACGIH TLV (United States, 3/2015).**<br>STEL: 1000 ppm 15 minutes. |
| Titanium Dioxide | **ACGIH TLV (United States, 3/2015).**<br>TWA: 10 mg/m³ 8 hours.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 15 mg/m³ 8 hours. Form: Total dust |
| Ethylbenzene | **ACGIH TLV (United States, 3/2015).**<br>TWA: 20 ppm 8 hours.<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 100 ppm 10 hours.<br>TWA: 435 mg/m³ 10 hours.<br>STEL: 125 ppm 15 minutes.<br>STEL: 545 mg/m³ 15 minutes.<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 100 ppm 8 hours.<br>TWA: 435 mg/m³ 8 hours. |

## Section 8. Exposure controls/personal protection

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Not available.

**Odor** : Not available.

**Odor threshold** : Not available.

**pH** : 7

**Melting point** : Not available.

**Boiling point** : Not available.

**Flash point** : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

**Evaporation rate** : 5.6 (butyl acetate = 1)

**Flammability (solid, gas)** : Not available.

## Section 9. Physical and chemical properties

**Lower and upper explosive (flammable) limits** : Lower: 1%
Upper: 13.1%

**Vapor pressure** : 13.5 kPa (101.325 mm Hg) [at 20°C]

**Vapor density** : 1.55 [Air = 1]

**Relative density** : 0.78

**Solubility** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Kinematic (room temperature): <0.205 $cm^2/s$ (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 $cm^2/s$ (<20.5 cSt)

**Molecular weight** : Not applicable.

**Aerosol product**

**Type of aerosol** : Spray

**Heat of combustion** : 27.32 kJ/g

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| Methyl Ethyl Ketone | LD50 Dermal | Rabbit | 6480 mg/kg | - |
| | LD50 Oral | Rat | 2737 mg/kg | - |
| Xylene | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| Butane | LC50 Inhalation Vapor | Rat | 658000 $mg/m^3$ | 4 hours |
| Ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |

**Irritation/Corrosion**

## Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Acetone | Eyes - Mild irritant | Human | - | 186300 parts per million | - |
| | Eyes - Mild irritant | Rabbit | - | 10 microliters | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 20 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 395 milligrams | - |
| Methyl Ethyl Ketone | Skin - Mild irritant | Rabbit | - | 24 hours 14 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| Xylene | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 milligrams | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 100 Percent | - |
| Titanium Dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |
| Ethylbenzene | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 milligrams | - |

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---|---|---|---|
| Xylene | - | 3 | - |
| Titanium Dioxide | - | 2B | - |
| Ethylbenzene | - | 2B | - |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Propane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Methyl Ethyl Ketone | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Xylene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Butane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Ethylbenzene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

**Specific target organ toxicity (repeated exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Acetone | Category 2 | Not determined | Not determined |
| Propane | Category 2 | Not determined | Not determined |
| Methyl Ethyl Ketone | Category 2 | Not determined | Not determined |
| Xylene | Category 2 | Not determined | Not determined |
| Butane | Category 2 | Not determined | Not determined |
| Ethylbenzene | Category 2 | Not determined | Not determined |

**Aspiration hazard**

| Name | Result |
|---|---|
| Propane | ASPIRATION HAZARD - Category 1 |
| Xylene | ASPIRATION HAZARD - Category 1 |
| Butane | ASPIRATION HAZARD - Category 1 |
| Ethylbenzene | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral<br>Inhalation (gases) | 13214.5 mg/kg<br>61072.7 ppm |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Acetone | Acute EC50 20.565 mg/l Marine water<br>Acute LC50 6000000 µg/l Fresh water<br>Acute LC50 10000 µg/l Fresh water<br>Acute LC50 5600 ppm Fresh water<br>Chronic NOEC 4.95 mg/l Marine water<br>Chronic NOEC 0.016 ml/L Fresh water<br>Chronic NOEC 0.1 ml/L Fresh water<br><br>Chronic NOEC 5 µg/l Marine water | Algae - Ulva pertusa<br>Crustaceans - Gammarus pulex<br>Daphnia - Daphnia magna<br>Fish - Poecilia reticulata<br>Algae - Ulva pertusa<br>Crustaceans - Daphniidae<br>Daphnia - Daphnia magna - Neonate<br>Fish - Gasterosteus aculeatus - | 96 hours<br>48 hours<br>48 hours<br>96 hours<br>96 hours<br>21 days<br>21 days<br><br>42 days |

## Section 12. Ecological information

| | | | |
|---|---|---|---|
| | | Larvae | |
| Methyl Ethyl Ketone | Acute EC50 >500000 µg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute EC50 5091000 µg/l Fresh water | Daphnia - Daphnia magna - Larvae | 48 hours |
| | Acute LC50 3220000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| Xylene | Acute LC50 8500 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| | Acute LC50 13400 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| Titanium Dioxide | Acute LC50 >1000000 µg/l Marine water | Fish - Fundulus heteroclitus | 96 hours |
| Ethylbenzene | Acute EC50 4600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 3600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute EC50 6530 µg/l Fresh water | Crustaceans - Artemia sp. - Nauplii | 48 hours |
| | Acute EC50 2930 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 4200 µg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |

### Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Acetone | - | - | Readily |
| Methyl Ethyl Ketone | - | - | Readily |
| Xylene | - | - | Readily |
| Ethylbenzene | - | - | Readily |

### Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Xylene | - | 8.1 to 25.9 | low |
| Titanium Dioxide | - | 352 | low |

### Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|---|---|---|---|---|---|
| **UN number** | UN1950 | UN1950 | UN1950 | UN1950 | UN1950 |
| **UN proper shipping name** | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS, flammable | AEROSOLS |
| **Transport hazard class(es)** | 2.1   | 2.1   | 2.1   | 2.1   | 2.1   |
| **Packing group** | - | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. | No. |
| **Additional information** | **Special provisions** LIMITED QUANTITY<br><br>**ERG No.** 126 | Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2).<br><br>**Special provisions** LIMITED QUANTITY<br><br>**ERG No.** 126 | **Special provisions** (ERG#126)<br><br>**ERG No.** 126 | **Special provisions** LIMITED QUANTITY | **Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U |

**Special precautions for user** : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

**Proper shipping name** : Not available.

**Ship type** : Not available.

**Pollution category** : Not available.

## Section 15. Regulatory information

### SARA 313

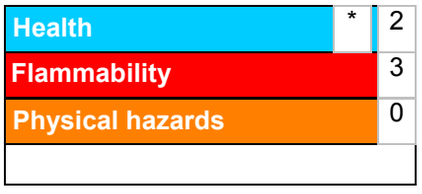
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

### California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)




**The customer is responsible for determining the PPE code for this material.**

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

### Procedure used to derive the classification

| Classification | Justification |
|---|---|
| Flam. Aerosol 1, H222 | On basis of test data |
| Press. Gas Comp. Gas, H280 | Calculation method |
| Skin Irrit. 2, H315 | Calculation method |
| Eye Irrit. 2A, H319 | Calculation method |
| Carc. 2, H351 | Calculation method |
| STOT SE 3, H335 | Calculation method |
| STOT SE 3, H336 | Calculation method |
| STOT RE 2, H373 | Calculation method |
| Asp. Tox. 1, H304 | Calculation method |

### History

**Date of printing** : 11/28/2015

**Date of issue/Date of revision** : 11/28/2015

**Date of previous issue** : 11/5/2015

**Version** : 1.04

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

### Notice to reader

## Section 16. Other information

**It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.**

# Material Safety Data Sheet

KYDEX THERMOPLASTICS

## KYDEX® Thermoplastic Sheet
MSDS - 101

### Section 1: Chemical Product and Company Identification

**Product/Chemical Name:** KYDEX® thermoplastic sheet; acrylic/PVC alloy
**Other Designations:** Mixture of polyvinyl chloride, chlorinated polyvinyl chloride, acrylic polymer, processing aids, impact modifiers, heat stabilizers, and lubricants
**General Use:** Thermoforming
**Manufacturer:** SEKISUI SPI, 6685 Low Street, Bloomsburg, PA 17815, PHONE 570.387.6997, FAX 570.387.8722
**Emergency Phone Numbers:** 570.387.6997 For transportation emergencies call CHEMTREC at 800.424.9300.

### Section 2: Composition / Information on Ingredients

Trace Impurities:

| Ingredient Name | CAS Number | % wt |
|---|---|---|
| Polyvinyl chloride; ethene, chloro-homopolymer | 9002-86-2 | 0-99 |
| Chlorinated polyvinyl chloride | 68648-82-8 | 0-99 |
| Mixture of processing aids, impact modifiers, heat stabilizers, lubricants and pigments | TRADE SECRET | 2-50 |
| Organotin | TRADE SECRET | 0.1-3 |

| | OSHA PEL | | ACGIH TLV | |
|---|---|---|---|---|
| Ingredient Name | TWA | STEL | TWA | STEL |
| Polyvinyl chloride | None estab. | None estab. | Particles not otherwise c classified: 10 mg/m³ | None estab. |
| Chlorinated polyvinyl chloride | None estab. | None estab. | Particles not otherwise classified: 10 mg/m³ | None estab. |
| Organotin | 0.1 mg/m³ | None estab. | 0.1 mg/m³ | 0.02 mg/m³ |
| Titanium Oxide | 5 mg/m³ | None estab. | 10 mg/m³ | None estab. |

**SEKISUI SPI**
ISO 9001 and 14001 Certified

**Customer Service**
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Outside the US: +1.570.389.5814
Fax: 800.452.0155, +1.570.387.7786
Email: info@sekisui-spi.com

**Technical Service**
Phone: 800.682.8758
Fax: +1.570.387.8722
Outside the US: +1.570.387.6997
techservice@sekisui-spi.com

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# Material Safety Data Sheet

KYDEX THERMOPLASTICS

## KYDEX® Thermoplastic Sheet
MSDS - 101

## Section 3: Hazards Indentification

**Emergency Overview:**

| HMIS | |
|---|---|
| H | 1 |
| F | 1 |
| R | 0 |
| PPE† | |

†Sec. 8

KYDEX thermoplastic sheet dry blend, a powder, is in general a non-hazardous polymeric material and does not present any serious hazards during its normal handling and use. As with any material; however, there are guidelines that should be followed in an emergency situation. If dust or vapors are inhaled, move to a well ventilated area. If skin or eyes are irritated, flush with water for 15 minutes.

**Potential Health Effects:**

**Primary Entry Routes:** Inhalation, skin/eyes, ingestion (vapors if burned or dust from machining the sheet)
**Target Organs:** Respiratory system, eyes
**Acute Effects:**
- **Inhalation:** Prolonged inhalation of dust from cutting or machining the plastic sheet may cause nose, throat and upper respiratory tract irritation. Excessive heating may lead to decomposition with the release of hydrogen chloride which could cause irritation to upper respiratory tract.
- **Eye:** Excessive heating may lead to decomposition with the release of hydrogen chloride which could cause irritation of eyes
- **Skin:** Dust from cutting and machining may be irritating to skin.
- **Ingestion:** Not a likely route of exposure

**Carcinogenicity:** IARC, NTP, and OSHA do not list KYDEX® sheet as a carcinogen.
**Medical Conditions Aggravated by Long-Term Exposure:** Not known
**Chronic Effects:** Not known

## Section 4: First Aid Measures

**Inhalation:** If irritation occurs from dust or vapors from excessive heating, move to a well-ventilated area; if irritation persists, consult a physician.
**Eye Contact:** If irritation occurs from dust or vapors from excessive heating, flush eyes with large amounts of water for at least 15 minutes; if irritation persists, consult a physician.
**Skin Contact:** Cool skin rapidly with cold water after contact with hot polymer. Wash off immediately with soap and plenty of water. Consult a physician.
**Ingestion:** Not a likely route of exposure
**Notes to Physician:** None
**Special Precautions/Procedures:** None

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# Material Safety Data Sheet

KYDEX® Thermoplastic Sheet
MSDS - 101

## Section 5: Fire-Fighting Measures


**Flash Point: 735˚F (390˚C)**
**Autoignition Temperature:** 849°F (454°C)
**Explosive Limits:**
LEL: Not available
UEL: Not available
**Flammability Classification:** Not flammable
**Extinguishing Media:** Water, carbon dioxide, dry chemical or foam
**Unusual Fire or Exposion Hazards:** Polyvinyl chloride-based material will NOT continue to burn after ignition without an external heat source. When burning, or at temperatures above 425°F, slow evolution of hydrogen chloride could occur.
**Hazardous Combustion Products:** Hydrogen chloride, carbon monoxide, carbon dioxide
NOTE: Hydrogen chloride is detectable by its sharp pungent odor in concentrations as low as 1 PPM. Low concentrations (< 50 PPM) are not harmful in short-term exposures but do provide excellent warning properties by causing coughing or irritation. Because the protective response is so strong, humans rarely submit to damaging concentrations -- instead there is an unmistakable urge to leave the area. Repeated or prolonged exposure to high concentrations can cause eye and respiratory damage.
**Fire-Fighting Instructions:** Keep unauthorized personnel removed.
**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

## Section 6: Accidental Release Measures

**Spill /Leak Procedures:** Not applicable. KYDEX® Thermoplastic sheets will not spill or leak; it is solid; however, dust from machining the product may leak or spill.
**Small Spills:** If dust or powder from cutting and machining the plastic sheet is spilled, vacuum or sweep up and place in containers for recovery or disposal.
**Large Spills:** If dust or powder from cutting and machining the plastic sheet is spilled, vacuum or sweep up and place in containers for recovery or disposal.
**Containment:** Not Applicable
**Cleanup:** Vacuum or sweep up and place in containers for recovery or disposal.
**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

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# Material Safety Data Sheet

KYDEX® THERMOPLASTICS

## KYDEX® Thermoplastic Sheet
MSDS - 101

### Section 7: Handling and Storage

**Handling Precautions:** Dust levels should be kept below respiratory dust concentrations of 5 mg/m3. Take proper care when moving, loading, or unloading. Electrostatic charge may build up during handling; grounding of equipment is recommended.
**Storage Requirements:** Store in a dry area below 100°F (37.7°C).
**Regulatory Requirements:** KYDEX® sheets are not regulated.

### Section 8: Accidental Release Measures

**Engineering Controls:** Maintain levels of airborne contaminants below exposure levels by controlling general and local room ventilation in areas where machining, cutting or thermoforming occurs. Ground equipment to prevent build up of electrostatic charge.
**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec.2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.
**Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.
**Protective Clothing/Equipment:** Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.
**Safety Stations:** Make emergency eyewash stations,quick-drench showers, and washing facilities available in work area.
**Contaminated Equipment:** Not applicable

### Section 9: Physical and Chemical Properties

**Physical State:** Solid
**Appearance and Odor:** Opaque plastic sheets; none or slight odor
**Odor Threshold:** Not available
**Vapor Pressure:** Not available
**Vapor Density (Air=1):** Not available
**Formula Weight:** Not available (Mix)
**Density:** 1.3-1.5 g/cc
**Specific Gravity (H2O=1, at 4 °C):** 1.3-1.5
**pH:** Not available

**Water Solubility:** Negligible
**Other Solubilities:** Tetrahydrafuran
**Boiling Point:** Not available
**Freezing Point:** Not available
**Viscosity:** Not available (solid)
**Refractive Index:** Not available (opaque)
**Surface Tension:** Not available
**% Volatile:** Not available
**Evaporation Rate:** Not available

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# Material Safety Data Sheet

KYDEX® THERMOPLASTICS

## KYDEX® Thermoplastic Sheet
MSDS - 101

### Section 10: Stability and Reactivity

**Stability:** KYDEX® sheets are stable at room temperature under normal storage and handling conditions.
**Polymerization:** Hazardous polymerization WILL NOT occur.
**Chemical Incompatibilities:** Polyvinyl chloride-based materials should not come in contact with acetal or acetal polymers in elevated temperature processing equipment. The two materials are not compatible and will react in violent decom position when mixed under conditions of heat and pressure.
**Conditions to Avoid:** Avoid temperatures of 425°F and above..
**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, hydrogen chloride.

### Section 11: Toxological Information

**Toxicity Data:***

**Eye Effects:** Possible irritation due to dust particles.
**Accute Inhalation Effects:** Polyvinyl chloride [PVC]: Rats and guinea pigs exposed continuously to PVC dust for 24 hrs/day for periods varying from 2-7 months were found to have extensive lung damage. In rats, inhalation of fumes from heated PVC produced interstitial edema as well as focal, bronchial and intraveolar hemorrhage.
**Accute Oral Effects:** Not known
**Chronic Effects:** Not known
**Carcinogenicity:** KYDEX® sheet is not a carcinogen
**Mutagenicity:** Not known

**Teratogenicity:** Not known
** See NIOSH and RTECS for additional toxicity data.*

### Section 12: Ecological Information

No ecological data available.

### Section 13: Disposal Considerations

Wastes can be landfilled. Dispose of in accordance with federal, state, and local regulations.

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# Material Safety Data Sheet

KYDEX THERMOPLASTICS

## KYDEX® Thermoplastic Sheet
MSDS - 101

### Section 14: Transport Information

**DOT Transportation Data (49 CFR 172.101):**

**Shipping Name:** KYDEX sheet
**Shipping Symbols:** None
**Hazard Class:** Not regulated
**ID No.:** Not applicable
**Packing Group:** Not applicable

**Label:** Not applicable
**Special Provisions (172.102):** None
**Packaging Authorizations:** None
**Quantity Limitations:** None
**Vessel Stowage Requirements:** None

### Section 15: Regulatory Information

**EPA Regulations:**

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)
CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112
CERCLA Reportable Quantity: None
SARA /Title III Hazard Categories:
Immediate (Acute) Health: NO
Delayed (Chronic) Health: NO
Fire Hazard: NO
Reactive Hazard: NO
Sudden Release of Pressure: NO

**OSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed
OSHA Standard (29 CFR 1910.1200) requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to make all information in the Material Safety Data Sheet available to your employees.

**State Regulations:**

New Jersey Workplace Hazardous Substance List: Chlorinated polyvinyl chloride, organotin compound, modifier and lubricant, titanium dioxide
Pennsylvania Right to Know Act: Chlorinated polyvinyl chloride, organotin compound, modifier, lubricant

### Section 16: Other Information

**Prepared By:** Carole Reed
**Revision Notes:** None
**Additional Hazard Rating Systems:** None

**SEKISUI SPI**
**ISO 9001 and 14001 Certified**

**Customer Service**
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Outside the US: +1.570.389.5814
Fax: 800.452.0155, +1.570.387.7786
Email: info@sekisui-spi.com

**Technical Service**
Phone: 800.682.8758
Fax: +1.570.387.8722
Outside the US: +1.570.387.6997
techservice@sekisui-spi.com

sekisui-spi.com



This information supersedes all previously published data.

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# SAFETY DATA SHEET (SDS)

According to 1907/2006/EC, Article 31

Printing Date 12/17/2015 Version number 1 Reviewed on 12/17/2015

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## 1: PRODUCT AND COMPANY IDENTIFICATION

**Trade name: Solder Alloy Containing Lead**

**1.3 Details of the supplier of the safety data sheet**
**Manufacturer/Supplier:**
Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143
Tel (630) 616-4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

**Information department:** Product Compliance: EHS_Kester@kester.com
**1.4 Emergency telephone number:**
CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300
CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number : (703) 527-3887

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## 2: HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture**
**Classification according to Regulation (EC) No 1272/2008**

GHS08 Health hazard

| | | |
|---|---|---|
| Carc. 2 | H351 | Suspected of causing cancer. |
| Repr. 1B | H360 | May damage fertility or the unborn child. |
| STOT RE 2 | H373 | May cause damage to organs through prolonged or repeated exposure. |

GHS07

| | | |
|---|---|---|
| Acute Tox. 4 | H302 | Harmful if swallowed. |
| Acute Tox. 4 | H312 | Harmful in contact with skin. |
| Acute Tox. 4 | H332 | Harmful if inhaled. |

**2.2 Label elements**
**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labeled according to the CLP regulation.
**Hazard pictograms**

GHS07 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**
LEAD (Pb)
**Hazard statements**
Harmful if swallowed, in contact with skin or if inhaled.
Suspected of causing cancer.
May damage fertility or the unborn child.

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**SAFETY DATA SHEET (SDS)**
According to 1907/2006/EC, Article 31

Printing Date 12/17/2015 Version number 1 Reviewed on 12/17/2015

**Trade name: Solder Alloy Containing Lead**

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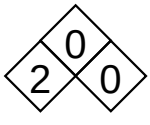
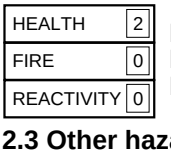
May cause damage to organs through prolonged or repeated exposure.
**Precautionary statements**
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of water.
Store in a dry place.
Dispose of contents/container in accordance with local/regional/national/international regulations.
**Hazard description:**
**WHMIS Symbols**

**Classification system:**
**NFPA ratings (scale 0 - 4)**




Health = 2
Fire = 0
Reactivity = 0

**HMIS-ratings (scale 0 - 4)**




Health = 2
Fire = 0
Reactivity = 0

**2.3 Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

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## 3: COMPOSITION OF MIXTURE

**Description:** Mixture of the substances listed below with nonhazardous additions.

| CAS No. | Description | | % Range |
|---|---|---|---|
| CAS: 7439-92-1<br>EINECS: 231-100-4 | LEAD (Pb) | Carc. 2, H351; Repr. 1B, H360; STOT RE 2, H373<br>Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332 | 05 - 100% |
| CAS: 7440-31-5<br>EINECS: 231-141-8 | TIN (Sn) | | 0 - 95% |

**Additional information:**
This solder product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

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## 4: FIRST AID MEASURES

**4.1 Description of first aid measures**
**General information:** Follow general first aid procedures.
**After inhalation:** Supply fresh air; consult doctor in case of complaints.
**After skin contact:** Immediately wash with water and soap and rinse thoroughly.
**After eye contact:** Rinse opened eye for several minutes under running water.
**After swallowing:** Seek immediate medical advice.

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**Trade name: Solder Alloy Containing Lead**

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**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
**4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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## 5: FIREFIGHTING MEASURES

**5.1 Extinguishing media**
**Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
**For safety reasons unsuitable extinguishing agents:** Water
**5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NOx)
Carbon dioxide (CO2)
**5.3 Advice for firefighters**
**Protective equipment:** Wear self-contained respiratory protective device.

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## 6: ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation
**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
**6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
**6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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## 7: HANDLING AND STORAGE

**7.1 Precautions for safe handling** Thorough dedusting.
**Information about protection against explosions and fires:** No special measures required.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage:**
**Requirements to be met by storerooms and receptacles:** Store in a cool location.
**Information about storage in one common storage facility:** Not required.
**Further information about storage conditions:** Keep receptacle tightly sealed.

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## 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**Additional information about design of technical systems:** No further data; see item 7.

**8.1 Control parameters**

| **Components with limit values that require monitoring at the workplace:** | |
|---|---|
| **7439-92-1 LEAD (Pb)** | |
| PEL | Long-term value: 0.05* mg/m³<br>*see 29 CFR 1910.1025 |
| REL | Long-term value: 0.05* mg/m³<br>*8-hr TWA,excl. lead arsenate;See PocketGuideApp.C |
| TLV | Long-term value: 0.05* mg/m³<br>*and inorganic compounds, as Pb; BEI |

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| 7440-31-5 TIN (Sn) | |
|---|---|
| PEL | Long-term value: 2 mg/m³<br>metal |
| REL | Long-term value: 2 mg/m³ |
| TLV | Long-term value: 2 mg/m³<br>metal |

**Additional information:**
PEL = Permissible Exposure Limit (OSHA)
TLV= Threshold Limit Value (ACGIH)
OSHA= Occupational Safety and Health Administration
ACGIH= American Conference of Governmental Industrial Hygienists

**8.2 Exposure controls**
**Personal protective equipment:**
**General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
**Breathing equipment:**
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
**Protection of hands:**

Protective gloves

**Material of gloves:**
Nitrile rubber, NBR
Natural rubber, NR
**Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
**Eye protection:**
Safety glasses

Face Shield with Safety Glasses when refilling.

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## 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**
**Form:** Solid Metal preform; wire or bar
**Color:** Silver grey
**Odor:** Odorless

**pH-value:** Not applicable.

**Change in condition**
**Melting point/Melting range:** 302 °C (576 °F)

**Flash point:** NA °C

**Flammability (solid, gaseous):** Not determined.

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**Trade name: Solder Alloy Containing Lead**

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| | |
|---|---|
| **Auto igniting:** | Product is not selfigniting. |
| **Danger of explosion:** | Product does not present an explosion hazard. |
| **Vapor pressure:** | Not applicable. |
| **Density at 20 °C (68 °F):** | 10.9 g/cm³ (90.961 lbs/gal) |
| **Vapor density** | Not applicable. |
| **Solubility in / Miscibility with Water:** | Insoluble. |

## 10: STABILITY AND REACTIVITY

**10.1 Reactivity** No further relevant information available.
**10.2 Chemical stability**
**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
**10.3 Possibility of hazardous reactions** No dangerous reactions known.
**10.4 Conditions to avoid** No further relevant information available.
**10.5 Incompatible materials:** Strong acids, strong oxidizers.
**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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## 11: TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**
**Acute toxicity:**
Harmful if swallowed, in contact with skin or if inhaled.
**Primary irritant effect:**
**on the skin:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**Carcinogenic categories**

| **IARC (International Agency for Research on Cancer)** | | |
|---|---|---|
| 7439-92-1 | LEAD (Pb) | 2B |

| **NTP (National Toxicology Program)** | | |
|---|---|---|
| 7439-92-1 | LEAD (Pb) | R |

| **OSHA-Ca (Occupational Safety & Health Administration)** |
|---|
| None of the ingredients is listed. |

## 12: ECOLOGICAL INFORMATION

**12.1 Toxicity**
**Aquatic toxicity:** No further relevant information available.
**Additional ecological information:**
**General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
**12.5 Results of PBT and vPvB assessment**
**PBT:** Not applicable.

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**Trade name: Solder Alloy Containing Lead**

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**vPvB:** Not applicable.

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## 13: DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**
**Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

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## 14: TRANSPORT INFORMATION

| | |
|---|---|
| **14.1 UN-Number** | Not regulated |
| **ADR** | Not regulated |
| **IMDG, IATA** | Not applicable |
| **14.2 UN proper shipping name** | Not regulated |
| **DOT, ADR** | Not applicable |
| **IMDG, IATA** | Not regulated |
| **14.3 Transport hazard class(es)** | |
| **DOT, ADR, IMDG, IATA** | |
| **Class** | Not applicable<br>Not regulated. |
| **14.4 Packing group** | Not regulated |
| **DOT, IMDG, IATA** | Not applicable |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **UN "Model Regulation":** | Not applicable |

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## 15: REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**USA** The following information relates to product regulation specific to the USA.

**SARA (Superfund Amendments and Reauthorization Act)**

| **Section 355 (extremely hazardous substances):** |
|---|
| None of the ingredient is listed. |

| **Section 313 (Specific toxic chemical listings):** | |
|---|---|
| 7439-92-1 | LEAD (Pb) |

| **TSCA (Toxic Substances Control Act): Kester certifies that all components listed below for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSCA Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D.** |
|---|
| All ingredients are listed or exempt from listing. |

**California Proposition 65**

| **Chemicals known to cause cancer:** |
|---|
| LEAD (Pb) |

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**SAFETY DATA SHEET (SDS)**
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**Trade name: Solder Alloy Containing Lead**

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| **Chemicals known to cause reproductive toxicity:** |
|---|
| LEAD (Pb) |

**Carcinogenic categories**

| **EPA (Environmental Protection Agency)** | | |
|---|---|---|
| 7439-92-1 | LEAD (Pb) | B2 |

| **NIOSH-Ca (National Institute for Occupational Safety and Health)** |
|---|
| None of the ingredients is listed. |

**CANADA:** Not classified.
**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labeled according to the CLP regulation.
**Hazard pictograms**

GHS07 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**
LEAD (Pb)
**Hazard statements**
Harmful if swallowed, in contact with skin or if inhaled.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
**Precautionary statements**
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of water.
Store in a dry place.
Dispose of contents/container in accordance with local/regional/national/international regulations.
**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16: OTHER INFORMATION

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibilty as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

**Department issuing Safety Data Sheet (SDS):** Product Compliance / EHS Department
**Contact:** EHS_Kester@kester.com
**Date of preparation / last revision** 12/17/2015 / -
**Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association

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**Trade name: Solder Alloy Containing Lead**

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GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
Acute Tox. 4: Acute toxicity, Hazard Category 4
Carc. 2: Carcinogenicity, Hazard Category 2
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
*** Data compared to the previous version altered.**

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 24-2445-5 | **Version Number:** | 3.00 |
| **Issue Date:** | 09/01/15 | **Supercedes Date:** | 08/07/14 |

**Product identifier**
3M™ Bondo® Lightweight Body Filler 240, 260, 261, 261ES, 261M, 261C, 262, 262ES, 262M, 262C, 262ES, 262T, 262W, 265, 265C, 265ES, 265L, 265W, 267, 267C

**ID Number(s):**

60-4550-5494-4, 60-4550-5651-9, 60-4550-5652-7, 60-4550-5653-5, 60-4550-5654-3, 60-4550-5655-0, 60-4550-5812-7, 60-4550-5824-2, 60-4550-6588-2, 60-4550-6589-0, 60-4550-6590-8

**Recommended use**
Automotive

**Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Automotive Aftermarket |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

**This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:**

29-5993-0, 24-2444-8

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M

**3M USA SDSs are available at www.3M.com**

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 24-2444-8 | **Version Number:** | 8.00 |
| **Issue Date:** | 03/19/15 | **Supercedes Date:** | 03/05/15 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Bondo® Lightweight Body Filler 260, 261, 261C, 261E, 262, 262C, 262ES, 262L, 262T, 262W, 263, 264, 264S, 265, 265C, 265ES, 265T, 265W, 267, 267C

**Product Identification Numbers**
41-0003-6562-1, 41-0003-6642-1, 41-0003-6715-5, 41-3701-1570-5

**1.2. Recommended use and restrictions on use**

**Recommended use**
Automotive, Body Repair

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Automotive Aftermarket |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

**2.1. Hazard classification**
Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 2B.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**

Flame | Health Hazard |

**Pictograms**

**Hazard Statements**
Flammable liquid and vapor.

Causes eye irritation.
Suspected of causing cancer.

Causes damage to organs:
liver |
sensory organs |

Causes damage to organs through prolonged or repeated exposure:
respiratory system |
sensory organs |

May cause damage to organs through prolonged or repeated exposure:
liver |

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Store in a well-ventilated place. Keep cool.

Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.
50% of the mixture consists of ingredients of unknown acute dermal toxicity.
36% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Polyester Resin | Trade Secret* | 15 - 40 Trade Secret * |
| Styrene Monomer | 100-42-5 | 10 - 30 Trade Secret * |
| Talc | 14807-96-6 | 10 - 30 Trade Secret * |
| Magnesium Carbonate | 546-93-0 | 7 - 15 Trade Secret * |
| Inert Filler | Trade Secret* | 5 - 10 Trade Secret * |
| Thickening Agent | Trade Secret* | < 3 Trade Secret * |
| Titanium Dioxide | 13463-67-7 | 0.1 - 1 Trade Secret * |

Any remaining components do not contribute to the hazards of this material.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Avoid breathing of dust created by cutting, sanding, grinding or machining. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Styrene Monomer | 100-42-5 | ACGIH | TWA:20 ppm;STEL:40 ppm | A4: Not class. as human carcin |
| Styrene Monomer | 100-42-5 | OSHA | TWA:100 ppm;CEIL:200 ppm | |
| Titanium Dioxide | 13463-67-7 | ACGIH | TWA:10 mg/m3 | A4: Not class. as human carcin |
| Titanium Dioxide | 13463-67-7 | CMRG | TWA(as respirable dust):5 mg/m3 | |
| Titanium Dioxide | 13463-67-7 | OSHA | TWA(as total dust):15 mg/m3 | |
| Talc | 14807-96-6 | ACGIH | TWA(respirable fraction):2 mg/m3 | A4: Not class. as human carcin |
| Talc | 14807-96-6 | CMRG | TWA(as respirable dust):0.5 mg/m3 | |
| Talc | 14807-96-6 | OSHA | TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft. | |
| Magnesium Carbonate | 546-93-0 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Inert Filler | Trade Secret | Manufacturer determined | TWA(as dust):10 mg/m3 | |
| Inert Filler | Trade Secret | ACGIH | TWA(as fiber):0.2 fiber/cc | A2: Suspected human carcin. |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

### 8.2. Exposure controls

#### 8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

#### 8.2.2. Personal protective equipment (PPE)

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Fluoroelastomer

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Paste |
| **Odor, Color, Grade:** | Pungent styrene odor colored paste. |
| **Odor threshold** | *No Data Available* |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | 293.00 ºF [*Details:* CONDITIONS: (Styrene)] |
| **Flash Point** | 80 ºF - 82 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | 0.1 - 0.5 |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 0.9 % |
| **Flammable Limits(UEL)** | 6.8 % |
| **Vapor Pressure** | 5.2 mmHg [*Details:* CONDITIONS: at 20 C] |
| **Vapor Density** | 3.6 |
| **Density** | 9.5126 lb/gal |
| **Density** | 1.14 g/ml |
| **Specific Gravity** | 1.14 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Hazardous Air Pollutants** | 0.372 lb HAPS/lb solids [*Test Method:* Calculated] |
| **Volatile Organic Compounds** | 203 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **Volatile Organic Compounds** | 17.8 % weight [*Test Method:* calculated per CARB title 2] |
| **Percent volatile** | 18.2 % weight |
| **VOC Less H2O & Exempt Solvents** | 204 g/l [*Test Method:* calculated SCAQMD rule 443.1] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable. Stable under normal conditions. May become unstable at elevated temperatures and/or pressures.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Strong acids
Strong bases
Strong oxidizing agents
Alkali and alkaline earth metals

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| Hydrocarbons | Not Specified |
| Styrene Oxide | Not Specified |
| Toxic Vapor, Gas, Particulate | Not Specified |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
May be harmful if inhaled.
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**

May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

**Prolonged or repeated exposure may cause target organ effects:**
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

**Carcinogenicity:**
Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|---|---|---|---|
| Inert Filler | Trade Secret | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| Inert Filler | Trade Secret | Anticipated human carcinogen | National Toxicology Program Carcinogens |
| Inert Filler | Trade Secret | Anticipated human carcinogen | National Toxicology Program Carcinogens |
| Styrene Monomer | 100-42-5 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| Styrene Monomer | 100-42-5 | Anticipated human carcinogen | National Toxicology Program Carcinogens |
| Titanium Dioxide | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE 20 - 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| Polyester Resin | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Talc | Dermal | | LD50 Not available |
| Talc | Ingestion | | LD50 Not available |
| Styrene Monomer | Dermal | Rat | LD50 > 2,000 mg/kg |
| Styrene Monomer | Inhalation-Vapor (4 hours) | Rat | LC50 8.3 mg/l |
| Styrene Monomer | Ingestion | Rat | LD50 5,000 mg/kg |
| Magnesium Carbonate | Ingestion | Mouse | LD50 > 5,000 mg/kg |
| Inert Filler | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Inert Filler | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Thickening Agent | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Thickening Agent | Inhalation- | Rat | LC50 > 12.6 mg/l |

| | | | |
|---|---|---|---|
| | Dust/Mist (4 hours) | | |
| Thickening Agent | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Titanium Dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Titanium Dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium Dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Talc | Rabbit | No significant irritation |
| Styrene Monomer | official classification | Mild irritant |
| Magnesium Carbonate | In vitro data | Minimal irritation |
| Inert Filler | Professional judgement | No significant irritation |
| Thickening Agent | Rat | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Talc | Rabbit | No significant irritation |
| Styrene Monomer | official classification | Moderate irritant |
| Magnesium Carbonate | Rabbit | Mild irritant |
| Inert Filler | Professional judgement | No significant irritation |
| Thickening Agent | Rabbit | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Styrene Monomer | Guinea pig | Not sensitizing |
| Titanium Dioxide | Human and animal | Not sensitizing |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| Talc | Human | Not sensitizing |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Talc | In Vitro | Not mutagenic |
| Talc | In vivo | Not mutagenic |
| Styrene Monomer | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Styrene Monomer | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Inert Filler | In Vitro | Some positive data exist, but the data are not |

| | | |
|---|---|---|
| | | sufficient for classification |
| Titanium Dioxide | In Vitro | Not mutagenic |
| Titanium Dioxide | In vivo | Not mutagenic |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Talc | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Styrene Monomer | Ingestion | Mouse | Carcinogenic |
| Styrene Monomer | Inhalation | Human and animal | Carcinogenic |
| Inert Filler | Inhalation | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Titanium Dioxide | Ingestion | Multiple animal species | Not carcinogenic |
| Titanium Dioxide | Inhalation | Rat | Carcinogenic |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Talc | Ingestion | Not toxic to development | Rat | NOAEL 1,600 mg/kg | during organogenesis |
| Styrene Monomer | Ingestion | Not toxic to female reproduction | Rat | NOAEL 21 mg/kg/day | 3 generation |
| Styrene Monomer | Inhalation | Not toxic to female reproduction | Rat | NOAEL 2.1 mg/l | 2 generation |
| Styrene Monomer | Inhalation | Not toxic to male reproduction | Rat | NOAEL 2.1 mg/l | 2 generation |
| Styrene Monomer | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 400 mg/kg/day | 60 days |
| Styrene Monomer | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 400 mg/kg/day | during gestation |
| Styrene Monomer | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 2.1 mg/l | during gestation |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Styrene Monomer | Inhalation | auditory system | Causes damage to organs | Multiple animal species | LOAEL 4.3 mg/l | not available |
| Styrene Monomer | Inhalation | liver | Causes damage to organs | Mouse | LOAEL 2.1 mg/l | not available |
| Styrene Monomer | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | occupational exposure |
| Styrene Monomer | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| Styrene Monomer | Inhalation | endocrine system | All data are negative | Rat | NOAEL Not available | not available |
| Styrene Monomer | Inhalation | kidney and/or bladder | All data are negative | Multiple animal species | NOAEL 2.1 mg/l | not available |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Talc | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Talc | Inhalation | pulmonary fibrosis \| respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 18 mg/m3 | 113 weeks |
| Styrene Monomer | Inhalation | eyes | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Styrene Monomer | Inhalation | auditory system | May cause damage to organs though prolonged or repeated exposure | Multiple animal species | NOAEL 1.3 mg/l | not available |
| Styrene Monomer | Inhalation | liver | May cause damage to organs though prolonged or repeated exposure | Mouse | LOAEL 0.85 mg/l | 13 weeks |
| Styrene Monomer | Inhalation | nervous system | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | LOAEL 1.1 mg/l | not available |
| Styrene Monomer | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.85 mg/l | 7 days |
| Styrene Monomer | Inhalation | endocrine system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.6 mg/l | 10 days |
| Styrene Monomer | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | LOAEL 0.09 mg/l | not available |
| Styrene Monomer | Inhalation | heart \| bone, teeth, nails, and/or hair \| muscles \| kidney and/or bladder | All data are negative | Multiple animal species | NOAEL 4.3 mg/l | 2 years |
| Styrene Monomer | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 500 mg/kg/day | 8 weeks |
| Styrene Monomer | Ingestion | immune system | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL Not available | not available |
| Styrene Monomer | Ingestion | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 677 mg/kg/day | 6 months |
| Styrene Monomer | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 600 mg/kg/day | 470 days |
| Styrene Monomer | Ingestion | heart \| respiratory system | All data are negative | Rat | NOAEL 35 mg/kg/day | 105 weeks |
| Inert Filler | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL not available | occupational exposure |
| Titanium Dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.010 mg/l | 2 years |
| Titanium Dioxide | Inhalation | pulmonary fibrosis | All data are negative | Human | NOAEL Not available | occupational exposure |

**Aspiration Hazard**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Styrene Monomer | 100-42-5 | 10 - 30 |

### 15.2. State Regulations
Contact 3M for more information.

**California Proposition 65**

| Ingredient | C.A.S. No. | Classification |
|---|---|---|
| Titanium Dioxide | 13463-67-7 | Carcinogen |

WARNING: This product contains a chemical known to the State of California to cause cancer.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 3 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 24-2444-8 | **Version Number:** | 8.00 |
| **Issue Date:** | 03/19/15 | **Supercedes Date:** | 03/05/15 |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 29-5993-0 | **Version Number:** | 3.02 |
| **Issue Date:** | 02/21/14 | **Supercedes Date:** | 10/02/12 |

## SECTION 1: Identification

**1.1. Product identifier**
Cream Hardener (Red, White & Blue)

**Product Identification Numbers**
LB-K100-0965-7, LB-K100-0965-8, LB-K100-0965-9, LB-K100-0966-0, LB-K100-0966-1, LB-K100-0966-2, LB-K100-0966-3, LB-K100-1035-6, LB-K100-1045-4, LB-K100-1286-7, 41-0003-7987-9, 60-4550-6614-6, 60-4550-6617-9, 60-4550-6830-8, 60-4550-6981-9, 60-4550-6982-7, 60-4550-8123-6

**1.2. Recommended use and restrictions on use**

**Recommended use**
Automotive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Automotive Aftermarket |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

**2.1. Hazard classification**
Organic Peroxide: Type E.
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.

**2.2. Label elements**
**Signal word**
Warning

**Symbols**
Flame | Exclamation mark |

**Pictograms**

**Hazard Statements**
Heating may cause a fire.

Causes serious eye irritation.
May cause an allergic skin reaction.

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep away from clothing and other combustible materials.
Keep only in original container.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

**Storage:**
Protect from sunlight.
Store at temperatures not exceeding 32C/90F. Keep cool.
Store away from other materials.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Not applicable

**2.3. Hazards not otherwise classified**
None.

6% of the mixture consists of ingredients of unknown acute dermal toxicity.
14% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|

| | | |
|---|---|---|
| Benzoyl Peroxide | 94-36-0 | 30 - 60 Trade Secret * |
| Water | 7732-18-5 | 10 - 30 Trade Secret * |
| Benzoic Acid, C9-11-Branched Alkyl Esters | 131298-44-7 | 10 - 30 Trade Secret * |
| Zinc Stearate | 557-05-1 | 3 - 7 Trade Secret * |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | 1 - 5 Trade Secret * |
| Calcium Sulfate | 7778-18-9 | 1 - 5 Trade Secret * |
| Iron Oxide (FE2O3) | 1309-37-1 | 1 - 5 Trade Secret * |
| Ferric Ferrocyanide | 14038-43-8 | 0 - 1 Trade Secret * |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | 0 - 1 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode. Part of the oxygen for combustion is supplied by the peroxide itself.

**5.3. Special protective actions for fire-fighters**
No unusual fire or explosion hazards are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Eliminate all ignition sources if safe to do so. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces,

provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not use in a confined area with minimal air exchange. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage including any incompatibilities**
Keep container tightly closed. Protect from sunlight. Store away from heat. Store at temperatures not exceeding 32C/90F. Keep cool. Keep only in original container. Store away from other materials. Keep/store away from clothing and other combustible materials.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Iron Oxide (FE2O3) | 1309-37-1 | Amer Conf of Gov. Indust. Hyg. | TWA(respirable fraction):5 mg/m3 | |
| Iron Oxide (FE2O3) | 1309-37-1 | US Dept of Labor - OSHA | TWA(as fume):10 mg/m3 | |
| CYANIDES | 14038-43-8 | US Dept of Labor - OSHA | TWA(as CN):5 mg/m3 | Skin Notation |
| Zinc Stearate | 557-05-1 | US Dept of Labor - OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Calcium Sulfate | 7778-18-9 | Amer Conf of Gov. Indust. Hyg. | TWA(inhalable fraction):10 mg/m3 | |
| Calcium Sulfate | 7778-18-9 | US Dept of Labor - OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |

| | | | | |
|---|---|---|---|---|
| Benzoyl Peroxide | 94-36-0 | Amer Conf of Gov. Indust. Hyg. | TWA:5 mg/m3 | |
| Benzoyl Peroxide | 94-36-0 | US Dept of Labor - OSHA | TWA:5 mg/m3 | |

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists
American Indust. Hygiene Assoc : American Industrial Hygiene Association
Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines
US Dept of Labor - OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Provide ventilation adequate to maintain dust concentration below minimum explosive concentrations. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Nitrile Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Nitrile

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Solid |
| **Specific Physical Form:** | Viscous |
| **Odor, Color, Grade:** | Red paste with slight ester odor |
| **Odor threshold** | *No Data Available* |

| | |
|---|---|
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *No Data Available* |
| **Flash Point** | 111 ºC [*Test Method:* Estimated] |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Organic Peroxide: Type E. |
| **Flammable Limits(LEL)** | *Not Applicable* |
| **Flammable Limits(UEL)** | *Not Applicable* |
| **Vapor Pressure** | *Not Applicable* |
| **Vapor Density** | *Not Applicable* |
| **Density** | 1.2 g/cm3 |
| **Specific Gravity** | 1.2 [@ 25 ºC] [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | *No Data Available* |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **Volatile Organic Compounds** | 0 lb/gal [*Test Method:* calculated SCAQMD rule 443.1] |
| **Volatile Organic Compounds** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **Volatile Organic Compounds** | 0 % weight [*Test Method:* calculated per CARB title 2] |
| **Percent volatile** | 20 % [*Details:* Water is the volatile component] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable. Stable unless exposed to heat, flames and drying conditions.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat

**10.5. Incompatible materials**
Accelerators

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |
| Toxic Vapor, Gas, Particulate | Not Specified |

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be**

**present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Skin Contact:**
May be harmful in contact with skin.
Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE 4,339.3 mg/kg |
| Overall product | Inhalation-Dust/Mist(4 hr) | | No data available; calculated ATE 10.7 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Benzoyl Peroxide | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Benzoyl Peroxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 24.3 mg/l |
| Benzoyl Peroxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Inhalation-Dust/Mist (4 hours) | Rat | LC50 2 mg/l |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Zinc Stearate | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Zinc Stearate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Dermal | Rabbit | LD50 > 16,960 mg/kg |
| Calcium Sulfate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5 mg/l |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Rat | LD50 4,240 mg/kg |
| Iron Oxide (FE2O3) | Dermal | Not available | LD50 3,100 mg/kg |
| Iron Oxide (FE2O3) | Ingestion | Not available | LD50 3,700 mg/kg |
| Ferric Ammonium Ferrocyanide | Ingestion | Rat | LD50 > 5,110 mg/kg |
| Ferric Ferrocyanide | Ingestion | Rat | LD50 > 8,000 mg/kg |

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

| Name | Species | Value |
|---|---|---|
| Benzoyl Peroxide | Rabbit | Minimal irritation |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Rabbit | Minimal irritation |
| Iron Oxide (FE2O3) | Rabbit | No significant irritation |

### Serious Eye Damage/Irritation

| Name | Species | Value |
|---|---|---|
| Benzoyl Peroxide | Rabbit | Severe irritant |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Rabbit | No significant irritation |
| Iron Oxide (FE2O3) | Rabbit | No significant irritation |

### Skin Sensitization

| Name | Species | Value |
|---|---|---|
| Benzoyl Peroxide | Human and animal | Sensitizing |
| Iron Oxide (FE2O3) | Human | Some positive data exist, but the data are not sufficient for classification |

### Respiratory Sensitization

| Name | Species | Value |
|---|---|---|

### Germ Cell Mutagenicity

| Name | Route | Value |
|---|---|---|
| Benzoyl Peroxide | In Vitro | Not mutagenic |
| Benzoyl Peroxide | In vivo | Not mutagenic |
| Iron Oxide (FE2O3) | In Vitro | Not mutagenic |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Benzoyl Peroxide | Ingestion | Multiple animal species | Not carcinogenic |
| Benzoyl Peroxide | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Rat | Not carcinogenic |
| Iron Oxide (FE2O3) | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Benzoyl Peroxide | Ingestion | Not toxic to female reproduction | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |
| Benzoyl Peroxide | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 500 mg/kg/day | premating & during gestation |
| Benzoyl Peroxide | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 500 mg/kg/day | premating & during gestation |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Not toxic to female reproduction | Rat | NOAEL 3,770 mg/kg/day | 90 days |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Not toxic to male reproduction | Rat | NOAEL 3,770 mg/kg/day | 90 days |
| Oxirane, Polymer with Methyloxirane, | Inhalation | Some positive male reproductive data | Rat | NOAEL 1 | 2 weeks |

| | | | | | |
|---|---|---|---|---|---|
| Monobutyl Ether | | exist, but the data are not sufficient for classification | | mg/l | |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | endocrine system \| hematopoietic system \| liver \| nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL .005 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL .001 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | heart | All data are negative | Rat | NOAEL .5 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 145 mg/kg/day | 90 days |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | hematopoietic system | All data are negative | Rat | NOAEL 500 mg/kg/day | 2 years |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | heart \| endocrine system \| respiratory system | All data are negative | Rat | NOAEL 3,770 mg/kg/day | 90 days |
| Iron Oxide (FE2O3) | Inhalation | pulmonary fibrosis \| pneumoconiosis | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |

**Aspiration Hazard**

| Name | Value |
|---|---|

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Zinc Stearate (ZINC COMPOUNDS) | 557-05-1 | 3 - 7 |
| Benzoyl Peroxide | 94-36-0 | 30 - 60 |
| Ferric Ferrocyanide (CYANIDES) | 14038-43-8 | 0 - 1 |

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 2 **Instability:** 1 **Special Hazards:** Oxidizer

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**
**Health:** 2 **Flammability:** 1 **Physical Hazard:** 1 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|---|---|---|---|
| **Document Group:** | 29-5993-0 | **Version Number:** | 3.02 |
| **Issue Date:** | 02/21/14 | **Supercedes Date:** | 10/02/12 |

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# *MSDS - Material Safety Data Sheet*

# *Product Name: LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)*

***MSDS No.: L206***

## *I. Basic Information:*

**Manufacturer:** RADIATOR SPECIALTY COMPANY
**Address:** 600 RADIATOR ROAD
**City, ST Zip:** INDIAN TRAIL, NC 28079
**Country:**

**Contact:** Robert Geer
**Information Telephone Number:** 704-684--181 1
**Emergency Contact:** Rocky Mountain Poision Control Center
**Emergency Telephone Number:** 303-623-5716
**Emergency Restrictions:**

**Product Name:** LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)
**MSDS No.:** L206

**Issue Date:** 08/18/2008
**Supersedes Date:** Not Available

## *II. Hazards Identification:*

**EMERGENCY OVERVIEW**

Danger: Flammable. Harmful or fatal if swallowed. Eye and skin irritant. Contents under pressure.

Level 3 Aerosol

**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential Health Effects**

**Route(s) of Entry:**

Absorption, Inhalation, and Ingestion.

**Health Hazards (Acute and Chronic):**

See signs and symptoms below

**Signs and Symptoms:**

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.
Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis, dizziness, respiratory or lung irritation.
Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

**Medical Conditions Generally Aggravated by Exposure:**

None Known

**Other Health Warnings:**

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

**Potential Environmental Effects**

Not Available

## *III. Composition/Information on Ingredients:*

| Chemical Name | CAS No. | % Range | Trade Secret |
|---|---|---|---|
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.0 - 5.0 | |
| 2-Butoxy-1-Ethanol | 111-76-2 | 1.0 - 5.0 | |
| Aliphatic Hydrocarbon - Non Exempt. | 8052-41-3 | 30.0 - 60.0 | |
| Carbon dioxide | 124-38-9 | 1.0 - 5.0 | |
| Mesitylene | 108-67-8 | 1.0 - 5.0 | |
| Naphthenic Petroleum Distillate | 64742-52-5 | 30.0 - 60.0 | |
| Xylene (mixed isomers) | 1330-20-7 | 1.0 - 5.0 | |

# *MSDS - Material Safety Data Sheet*

# *Product Name: LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)*

***MSDS No.: L206***

## *IV. First Aid Measures:*

**Emergency and First Aid Procedures:**

Eye Contact: Flush eyes with clean water for 20 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash skin with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Remove and isolate contaminated clothing. Launder contaminated clothing before reuse.
Inhalation: Move victim to fresh air. If breathing becomes difficult, administer oxygen and get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

**Note to Physicians:**

N/E

## *V. Fire Fighting Measures:*

**Suitable Extinguishing Media:**

Water Fog, Foam, Carbon Dioxide, Dry Chemical

**Unsuitable Extinguishing Media:**

Do not use forced water stream as this could cause the fire to spread.

**Products of Combustion:**

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

**Protection of Firefighters:**

Wear self-contained positive pressure breathing apparatus and protective clothes. Use shield to protect from rupturing and venting containers. At elevated temperatures containers may vent, rupture or burst, even violently

## *VI. Accidental Release Measures:*

**Personal Precautions:**

Eliminate all ignition sources. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**Environmental Precautions:**

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occured. Run off to sewer may create fire or explosion hazard.

**Methods for Containment:**

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

**Methods for Cleanup:**

Using a non-metalic scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material.

**Other Information:**

All equipment used with handling the concentrate must be grounded. If run-off occurs, notify proper authorities as required that a spill has occured.

## *VII. Handling and Storage:*

**Handling Precautions:**

Use with adequate ventilation and proper protective equipment.
Do not use or store near fire, sparks, or open flame. Do not puncture or incinerate container. Exposure to temperatures above 120° may cause container to vent, rupture, or burst.

**Storage Precautions:**

Store in cool, well ventilated area below 120°F away from heat, fire, sparks or flame.

## *VIII. Exposure Controls/Personal Protection:*

# *MSDS - Material Safety Data Sheet*

## *Product Name: LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)*

***MSDS No.: L206***

| Chemical Name | OSHA PEL | ACGIH TLV | Other Limits |
|---|---|---|---|
| Aliphatic Hydrocarbon - Non Exempt. | 100 ppm | 100 ppm | Not Available |
| 2-Butoxy-1-Ethanol | 50 ppm | 25 ppm | Not Available |
| Carbon dioxide | N/AV | 5000 ppm | Not Available |
| 1,2,4-Trimethylbenzene | N/E | 25 ppm | Not Available |
| Naphthenic Petroleum Distillate | 5 mg/m3 | 5 mg/m3 | Not Available |
| Mesitylene | N/A | N/A | Not Available |
| Xylene (mixed isomers) | 100 ppm | 100 ppm | Not Available |

**Engineering Controls:**

See above Section for applicable exposure limits. If TLV is exceeded, wear NIOSH approved respirator.

**Personal Protective Equipment:**

Use with adequate ventilation For prolonged exposure wear protective safety glasses, gloves, and apron.

## *IX. Physical and Chemical Properties:*

**Boiling Point:** 320 F

**Boiling Range:** N/D

**Solubility In Water:** Insoluble

**Flash Point:** 132F

**Odor Threshold:** N/D

**Vapor Density (AIR = 1):** N/D

**pH Range:** N/A

**Decomposition Temp:** N/D

**Lower Explosive Limit:** 0.7%

**Specific Gravity (H20 = 1):** 0.81

**Other Information:** VOC Content: 44.0 %

**Melting Point:** N/A

**Freezing Point:** N/D

**Evaporation Rate (Butyl Acetate = 1):** N/A

**Flash Point Method: TCC**

**Appearance and Odor:** Clear light yellow with sweet vanilla odor

**Vapor Pressure (mm Hg.):** N/D

**Partition Coefficient:** N/D

**Auto-Ignition Temp:** N/D

**Upper Explosive Limit:** 5%

## *X. Stability and Reactivity:*

**Stability:**

Product is stable

**Conditions to Avoid:**

Avoid heat, sparks, and flames. Avoid incompatible materials.

**Incompatible Materials:**

Avoid contact with strong oxidizers

**Hazardous Decomposition Products:**

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

**Possibility of Hazardous Reactions:**

Will not occur

## *XI. Toxicological Information:*

N/D

# *MSDS - Material Safety Data Sheet*

# *Product Name: LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)*

***MSDS No.: L206***

## *XII. Ecological Information:*

N/D

## *XIII. Disposal Considerations:*

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

## *XIV. Transport Information:*

**Shipping Name:** Consumer Commodity

**DOT Hazard Class:** ORM-D

**DOT Subsidiary Hazard Class:** Not Available

**UN/NA#:** 1950

**Packing Group:** Not Available

**Transportation Information:**

DOT Hazard Class: ORM-D
Shipping Name: Consumer Commodity

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for international and air shipping purposes.

ICAO/IATA (US)
Shipping Name: Aerosols
Class: 2.1
UN number: UN1950

International:

ICAO/IATA
UN number: UN1950
Shipping Name: Aerosols
Class: 2.1

IMDG
UN number: UN1950
Shipping Name: Aerosols
Class: 2.1
EmS: F-D, S-U

## *XV. Regulatory Information:*

SARA Reportable Chemicals.
Aliphatic Hydrocarbon (8052-41-3)
2 Butoxy-1-ethanol (111-76-2)
1,2,4-Trimethylbenzene (95-63-6)
Xylene (1330-20-7)

USA TSCA: All components of this material are either exempt or listed on the US TSCA Inventory.

Warning: This product contains a chemical(s) known to the State of California to cause cancer or birth defects or other reproductive harm.

State RTK Chemicals
Aliphatic Hydrocarbon 8052-41-3
1,2,4-Trimethylbenzene 95-63-6
1,3,5-Trimethylbenzene 108-67-8
Xylene 1330-20-7

# *MSDS - Material Safety Data Sheet*

## *Product Name: LIQUID WRENCH MULTI-USE LUBRICATING OIL (UPC 078698216577)*

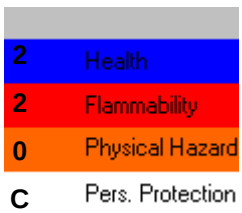
***MSDS No.: L206***

### *XVI. Other Information:*

| | | | | |
|---|---|---|---|---|
| **Chemical State:** | [X] Liquid | [ ] Gas | [ ] Solid | |
| **Chemical Type:** | [ ] Pure | [X] Mixture | | |

**Hazard Category:**

| | | | |
|---|---|---|---|
| [X] Acute | [ ] Chronic | [X] Fire | |
| | [X] Pressure | [ ] Reactive | |


**Additional Manufacturer Warnings:**

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

**Additional Product Information:**

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

# Safety Data Sheet

**Revision Number:** 005.0

**Issue date:** 08/06/2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** **Loctite(R) 609 Retaining Compound Press Fit**
**Product type:** Anaerobic Adhesive
**Restriction of Use:** None identified
**Company address:**
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

**IDH number:** 135511
**Item number:** 60921
**Region:** United States
**Contact information:**
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

| EMERGENCY OVERVIEW | |
|---|---|
| WARNING: | CAUSES SKIN IRRITATION.<br>MAY CAUSE AN ALLERGIC SKIN REACTION.<br>CAUSES SERIOUS EYE IRRITATION. |

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| SKIN IRRITATION | 2 |
| EYE IRRITATION | 2A |
| SKIN SENSITIZATION | 1 |

**PICTOGRAM(S)**

**Precautionary Statements**

**Prevention:** Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

**Storage:** Not prescribed

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|---|---|
| Polyglycol dimethacrylate | Proprietary | 60 - 100 |
| 2-Hydroxyethyl methacrylate | 868-77-9 | 10 - 30 |
| Ethyl methacrylate homopolymer | Proprietary | 1 - 5 |
| Cumene hydroperoxide | 80-15-9 | 1 - 5 |
| Saccharin | 81-07-2 | 1 - 5 |
| Adhesion Promoter | Proprietary | 0.1 - 1 |
| Cumene | 98-82-8 | 0.1 - 1 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Skin contact:** Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Symptoms:** See Section 11.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Unusual fire or explosion hazards:** Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers. In case of fire, keep containers cool with water spray.

**Hazardous combustion products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:** Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Refer to Section 8.

**Storage:** For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

**For information on product shelf life contact Henkel Customer Service at (800) 243-4874.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Polyglycol dimethacrylate | None | None | None | None |
| 2-Hydroxyethyl methacrylate | None | None | None | 3 ppm Ceiling |
| Ethyl methacrylate homopolymer | None | None | None | None |
| Cumene hydroperoxide | None | None | 1 ppm (6 mg/m3) TWA (SKIN) | None |
| Saccharin | None | None | None | None |
| Adhesion Promoter | 20 ppm TWA | None | None | None |
| Cumene | 50 ppm TWA | 50 ppm (245 mg/m3) PEL (SKIN) | None | None |

**Engineering controls:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

**Skin protection:** Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves. Glove recommendations are based upon permeation study results for similar products.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Green
**Odor:** Mild
**Odor threshold:** Not available.
**pH:** Not applicable
**Vapor pressure:** < 5 mm hg (27 °C (80.6 °F))
**Boiling point/range:** > 149 °C (> 300.2 °F)
**Melting point/ range:** Not available.
**Specific gravity:** 1.1
**Vapor density:** Not available.
**Flash point:** > 93.3 °C (> 199.94 °F) Tagliabue closed cup
**Flammable/Explosive limits - lower:** Not available.
**Flammable/Explosive limits - upper:** Not available.
**Autoignition temperature:** Not available.
**Evaporation rate:** Not available.
**Solubility in water:** Slight
**Partition coefficient (n-octanol/water):** Not available.

**VOC content:** 0.22 %; 2.46 g/l
**Viscosity:** Not available.
**Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of storage and use.

**Hazardous reactions:** None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

**Hazardous decomposition products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

**Incompatible materials:** Strong oxidizing agents.

**Reactivity:** Not available.

**Conditions to avoid:** Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

**Potential Health Effects/Symptoms**

**Inhalation:** Inhalation of vapors or mists of the product may be irritating to the respiratory system.
**Skin contact:** Causes skin irritation. May cause allergic skin reaction.
**Eye contact:** Causes serious eye irritation.
**Ingestion:** May cause gastrointestinal tract irritation if swallowed.

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Polyglycol dimethacrylate | None | Allergen, Irritant |
| 2-Hydroxyethyl methacrylate | Oral LD50 (RAT) = 11.2 g/kg<br>Oral LD50 (RAT) = 5,050 mg/kg | Irritant, Allergen |
| Ethyl methacrylate homopolymer | None | Irritant |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| Saccharin | None | No Target Organs |
| Adhesion Promoter | Oral LD50 (RABBIT) = 1,200 mg/kg<br>Oral LD50 (RAT) = 1,060 mg/kg<br>Oral LD50 (RAT) = 2,224 mg/kg<br>Dermal LD50 (RABBIT) = 500 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 7.1 mg/l | Corrosive, Irritant, Allergen |
| Cumene | Oral LD50 (RAT) = 2.91 g/kg<br>Oral LD50 (RAT) = 1,400 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 8000 ppm | Central nervous system, Irritant, Lung |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Polyglycol dimethacrylate | No | No | No |
| 2-Hydroxyethyl methacrylate | No | No | No |
| Ethyl methacrylate homopolymer | No | No | No |
| Cumene hydroperoxide | No | No | No |
| Saccharin | No | No | No |
| Adhesion Promoter | No | No | No |
| Cumene | No | Group 2B | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

**The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** RQ, Environmentally hazardous substances, liquid, n.o.s.
**Hazard class or division:** 9
**Identification number:** UN 3082
**Packing group:** III
**DOT Hazardous Substance(s):** alpha,alpha-Dimethylbenzylhydroperoxide

**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s.
**Hazard class or division:** 9
**Identification number:** UN 3082
**Packing group:** III

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
**Hazard class or division:** 9
**Identification number:** UN 3082
**Packing group:** III

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**TSCA 12 (b) Export Notification:** None above reporting de minimis

**CERCLA/SARA Section 302 EHS:** None above reporting de minimis
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health
**CERCLA/SARA Section 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9). Saccharin (CAS# 81-07-2).
**CERCLA Reportable quantity:** Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

**California Proposition 65:** This product contains a chemical known in the State of California to cause cancer.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Sheila Gines, Regulatory Affairs Specialist

**Issue date:** 08/06/2014

# Material Safety Data Sheet

**Revision Number:** 003.1

**Issue date:** 12/30/2008

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** LOCTITE® 222MS™ THREADLOCKER LOW STRENGTH
**Product use:** Sealant
**IDH number:** 135333
**Item number:** 22221
**Region:** Canada

**Company address:**
Henkel Canada Corporation
2225 Meadowpine Boulevard
Mississauga, Ontario L5N 7P2

**Contact information:**
Telephone: 905.814.6511
Emergency telephone: 905.814.6511
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

**Physical state:** Liquid
**Color:** Purple
**Odor:** Mild
**WHMIS hazard class:** D.2.B

WARNING: CAUSES EYE IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

**Relevant routes of exposure:** Skin, Inhalation, Eyes

**Potential Health Effects**

**Inhalation:** May cause respiratory tract irritation.
**Skin contact:** May cause allergic skin reaction. May cause skin irritation.
**Eye contact:** Contact with eyes will cause irritation.
**Ingestion:** Not expected to be harmful by ingestion.

**Existing conditions aggravated by exposure:** Eye, skin, and respiratory disorders.

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous components | CAS NUMBER | % |
|---|---|---|
| Polyglycol dimethacrylate | 25852-47-5 | 30 - 60 |
| Oleic acid 5.5EO | 9004-96-0 | 30 - 60 |
| Saccharin | 81-07-2 | 1 - 5 |
| Silica, amorphous, fumed, crystal-free | 112945-52-5 | 1 - 5 |
| Cumene hydroperoxide | 80-15-9 | 1 - 5 |
| Propanediol-1,2 | 57-55-6 | 1 - 5 |

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If symptoms develop and persist, get medical attention.

**Skin contact:** Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.

| | |
|---|---|
| **Eye contact:** | Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention. |
| **Ingestion:** | Do not induce vomiting. Keep individual calm. Get medical attention. |

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash point:** | > 93.3 °C (> 199.94 °F) Tagliabue closed cup |
| **Autoignition temperature:** | Not available |
| **Flammable/Explosive limits - lower:** | Not available |
| **Flammable/Explosive limits - upper:** | Not available |
| **Extinguishing media:** | Foam, dry chemical or carbon dioxide. |
| **Special firefighting procedures:** | Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. |
| **Unusual fire or explosion hazards:** | None |
| **Hazardous combustion products:** | Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours. |
| **Sensitivity to Mechanical Impact:** | Not available |
| **Sensitivity to static discharge:** | Not available |

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

| | |
|---|---|
| **Environmental precautions:** | Do not allow product to enter sewer or waterways. |
| **Clean-up methods:** | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal. |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling:** | Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Use only with adequate ventilation. |
| **Storage:** | For safe storage, store at or below 38 °C (100.4 °F)<br>Keep in a cool, well ventilated area away from heat, sparks and open flame.<br>Keep container tightly closed until ready for use. |

**For information on product shelf life contact Henkel Canada Customer Service at (905) 814-6511.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous components | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Polyglycol dimethacrylate | None | None | None | None |
| Oleic acid 5.5EO | None | None | None | None |
| Saccharin | None | None | None | None |
| Silica, amorphous, fumed, crystal-free | 10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction. 6 mg/m3 TWA | 20 MPPCF TWA 0.8 mg/m3 TWA | None | None |
| Cumene hydroperoxide | None | None | 1 ppm (6 mg/m3) TWA (SKIN) | None |
| Propanediol-1,2 | None | None | 10 mg/m3 TWA Aerosol. | None |

**Engineering controls:** No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.

**Respiratory protection:** Use a NIOSH approved supplied air respirator with an organic cartridge if the potential to exceed established exposure limits exists.

**Eye/face protection:** Safety goggles or safety glasses with side shields.

**Skin protection:** Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Purple
**Odor:** Mild
**Odor threshold:** Not available
**pH:** Not applicable
**Vapor pressure:** < 5 mm Hg (27 °C (80.6 °F))
**Boiling point/range:** > 149 °C (> 300.2 °F)
**Melting point/ range:** Not available
**Specific gravity:** 1.05
**Vapor density:** Not available
**Flash point:** > 93.3 °C (> 199.94 °F) Tagliabue closed cup
**Flammable/Explosive limits - lower:** Not available
**Flammable/Explosive limits - upper:** Not available
**Autoignition temperature:** Not available
**Evaporation rate:** Not available
**Solubility in water:** Slight
**Partition coefficient (n-octanol/water):** Not available
**VOC content:** 0.19 %; 1.79 g/l

## 10. STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous reactions:** Will not occur.

**Hazardous decomposition products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

**Incompatible materials:** Strong oxidizing agents.

**Conditions to avoid:** See "Handling and Storage" (Section 7) and "Incompatabilty" (Section 10).

## 11. TOXICOLOGICAL INFORMATION

**Acute oral product toxicity:** LD50 (rat) > 10,000 mg/kg

**Acute dermal product toxicity:** LD50 (rabbit) > 5,000 mg/kg

**Toxicologically synergistic products:** Not available

**Refer to the following for Irritancy of Product, Sensitization to Product, Carcinogenicity, Reproductive Toxicity, Teratogenicity, and Mutagenicity.**

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) | ACGIH Carcinogen |
|---|---|---|---|---|
| Polyglycol dimethacrylate | No | No | No | No |
| Oleic acid 5.5EO | No | No | No | No |
| Saccharin | No | No | No | No |
| Silica, amorphous, fumed, crystal-free | No | No | No | No |
| Cumene hydroperoxide | No | No | No | No |
| Propanediol-1,2 | No | No | No | No |

| Hazardous components | LD50s and LC50s | Health Effects/Target Organs |
|---|---|---|
| Polyglycol dimethacrylate | None | Irritant, Allergen |
| Oleic acid 5.5EO | None | Irritant |
| Saccharin | None | No Target Organs |
| Silica, amorphous, fumed, crystal-free | None | Nuisance dust |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| Propanediol-1,2 | Oral LD50 (RAT) = 30,000 mg/kg<br>Oral LD50 (rabbit) = 18,000 mg/kg | Irritant |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

## 14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

**Canada Transportation of Dangerous Goods - Ground**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

## 15. REGULATORY INFORMATION

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

## 16. OTHER INFORMATION

**This material safety data sheet contains changes from the previous version in sections:** New Material Safety Data Sheet format.

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR), and the MSDS contains all the information required by the CPR.**

**Prepared by:** Kyra Kozak Woods, Manager, Regulatory Affairs

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# MATERIAL SAFETY DATA SHEET
# LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

## Section 1 • Product and Company Identification

| | |
|---|---|
| **Product Name:** | LPS® Magnum Premium Lubricant with PTFE |
| **Part Number:** | 00616 (aerosol), 00605, C00616 (aerosol), C00605 |
| **Chemical Name:** | Petroleum Distillates |
| **Product Use:** | A specialized lubricant designed to reduce friction, heat, noise, and wear between moving parts, and to loosen rusted or immovable parts and mechanisms. |
| **Manufacturer Information:** | LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084 |
| **TEL:** | 1 770-243-8800 |
| **Emergency Telephone Number:** | 1-800-424-9300 Chemtrec;<br>Outside U.S.: (703) 527-3887 |
| **FAX:** | 1 770-243-8899 |
| **Website:** | http://www.lpslabs.com |

### PLAIN LANGUAGE HAZARD SUMMARY

Material Safety Data Sheets can be confusing. Federal and State laws require us to include a great deal of technical information that probably won't help the non-professional. LPS includes this "PLAIN LANGUAGE HAZARD SUMMARY" to address the questions and concerns of the average worker. If you have additional health, safety or product questions, don't hesitate to call us at 800/241-8334.

**Worker Toxicity**

LPS® Magnum Premium Lubricant with PTFE is an industrial chemical. It is a specialized lubricant designed to reduce friction, heat, noise, and wear between moving parts, and to loosen rusted or immovable parts and mechanisms. It contains petroleum distillates and mineral oil that can be irritating to skin. Avoid extended exposure to unprotected skin. Don't get it in your eyes (it stings), or breath the vapor (if working on hot surfaces or heated tanks). Vapors from heated LPS® Magnum Premium Lubricant with PTFE can make you dizzy and even sick. For more exposure and first aid information, refer to MSDS Sections 2, 8 and 11.

**Flammability**

LPS® Magnum Premium Lubricant with PTFE is combustible having a flash point above 170°F and an autoignition temperature over 400°F. Under normal use conditions flammability isn't a concern, but don't apply the product onto red-hot metal surfaces or near sparks.

**Disposal**

LPS® Magnum Premium Lubricant with PTFE in non-aerosol form is not hazardous for disposal; however, if it becomes contaminated with another substance, the resulting mixture may fall under a hazardous classification. See section 13 for more details.

# MATERIAL SAFETY DATA SHEET
## LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

## Section 2 • Hazards Identification

*This preparation is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.*

**Emergency Overview: Aerosol:** DANGER: Flammable. Contents under pressure. Harmful or Fatal if Swallowed.
**Bulk:** DANGER: Combustible. Harmful or Fatal if Swallowed.

**Primary route(s) of entry:** Skin and Eye contact. Inhalation.

**Potential Acute Health Effects:**

**Eyes:** Irritating to eyes.

**Skin:** Repeated exposure may cause skin dryness or cracking.

**Inhalation:** Excessive inhalation of vapors can cause irritation of the respiratory tract, nausea, dizziness or headache.

**Ingestion:** Product has a low order of acute oral toxicity, but ingestion of large quantities may cause nausea, vomiting, and gastrointestinal irritation. May cause injury if aspirated into lungs.

**Potential Chronic Health Effects:**

**Carcinogenic Effects: NTP:** No **IARC:** No **OSHA:** No

**Mutagenic Effects:** None

**Teratogenic Effects:** None

**Medical conditions aggravated by exposure:** Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

**Signs and Symptoms**
Stinging in eyes. Repeated or prolonged skin contact can cause redness, irritation, and scaling of the skin (dermatitis). Breathing of high vapor concentrations may cause headaches, stupor, irritation of throat and eyes, and kidney effects.

## Section 3 • Composition / Information on Ingredients

| Component | CASRN | Percent by Weight |
|---|---|---|
| Aliphatic Hydrocarbon | 64742-47-8 | 40 - 50% |
| Petroleum Oil | 64742-52-5 | 30 - 40% |
| Dipropylene Glycol Monomethyl Ether | 34590-94-8 | 2 - 3% |
| Carbon Dioxide Propellant (aerosol only) | 124-38-9 | 1 - 4% |
| Distillates (petroleum), solvent-refined heavy paraffinic | 64741-88-4 | 2 - 3% |

*All remaining materials are not classified as "hazardous" per 29 CFR 1900.1200 Subpart Z

## Section 4 • First Aid Measures

**Eyes:** Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.

**Skin:** Remove contaminated shoes and clothing. Clean affected area thoroughly with mild soap and water. Do not use ointments. Seek medical attention if irritation persists.

**Inhalation:** Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, seek medical attention immediately.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention immediately.

## Section 5 • Fire Fighting Measures

**Products of Combustion:** Carbon monoxide and carbon dioxide.

**Firefighting media:** Use $CO_2$, DRY chemical powder, water spray, fog or foam. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosions.

**Sensitivity to Impact:** None **Sensitivity to Static Discharge:** None

**Protection Clothing (Fire):** Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles.

**Special Remarks on Explosion Hazards:** Aerosols may explode upon heating, spread fire and overcome sprinkler systems.

## Section 6 • Accidental Release Measures

**Small Spill and Leak:** Absorb with an inert material and dispose of properly.

**Large Spill and Leak:** For large spills, secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Pick up free liquid for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.

## Section 7 • Handling and Storage

**Handling:** DO NOT spray into or around ignition sources. After handling, always wash hands thoroughly with soap and water. Use only with adequate ventilation. Avoid breathing vapors or spray mists.

**Storage:** Keep container in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store below 120°F.

**Precautions to be taken in handling and storage:** *Store aerosols as Level 3 Aerosol (NFPA 30B).* Store all materials in dry, well-ventilated area. Avoid breathing vapors.

# MATERIAL SAFETY DATA SHEET
# LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

## Section 8 • Exposure Controls / Personal Protection

**Exposure Guidelines:**

| Component | CASRN | OSHA TWA-PEL | OSHA STEL | ACGIH-TLV | ACGIH-STEL | NIOSH REL |
|---|---|---|---|---|---|---|
| Aliphatic Hydrocarbon | 64742-47-8 | 100 ppm* Supplier TWA | Not Established | Not Established | Not Established | Not Established |
| Petroleum Oil | 64742-52-5 | Not established | Not Established | 5mg/m$^3$ (Oil Mist) | 10 mg/m$^3$ (Oil Mist) | Not Established |
| Dipropylene glycol monomethyl ether | 34590-94-8 | 100 ppm | Not Established | 100 ppm | 150 ppm | Not Established |
| Carbon Dioxide propellant (aerosol only) | 124-38-9 | 10,000 ppm | 30000 ppm | 5000 ppm | 30000 ppm | 5000 ppm TWA 30000 ppm STEL |
| Distillates (petroleum), solvent-refined heavy paraffinic | 64741-88-4 | Not established | Not Established | 5mg/m$^3$ (Oil Mist) | 10 mg/m$^3$ (Oil Mist) | Not Established |

* Supplier Recommendation

**Engineering measures** Provide general and/or local exhaust ventilation to keep exposures below the exposure guidelines listed above.

**Personal protective equipment**

**Eye protection** Safety glasses with side shields conforming to appropriate regulations. Eye wash fountain and emergency shower facilities are recommended.

**Hand protection** Normally no hand protection is required; however, if product will be sprayed for an extended period, "overspray" onto skin may occur. If so, use chemical resistant gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves.

**Respiratory protection** Typical use of this product under normal conditions does not require the use of respiratory protection. If airborne concentrations are above the applicable exposure limits (listed above), use NIOSH approved respiratory protection (i.e., organic vapor cartridge).

**General Hygiene Considerations** Wash throughly after handling. Have eye-wash facilities immediately available.

# MATERIAL SAFETY DATA SHEET
## LPS® Magnum Premium Lubricant with PTFE

Revision 5 | Revision Date: 10/2/08 | Supercedes: 9/24/08

## Section 9 • Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Appearance:** | Liquid. | **Color:** | Brown |
| **Odour/Taste:** | Petroleum / Cherry | **Vapor Pressure:** | <0.05mmHg @ 20 °C |
| **Solubility Description:** | <4% | **Evaporation Rate:** | <0.1(BuAc=1) |
| **Boiling Point:** | 195°C( 383°F) | **Flash Point:** | 79°C (175°F) |
| **Specific Gravity (Water=1):** | 0.85-0.87 @ 20 °C | **Flash Point Method:** | Tag-Closed Cup. |
| **Vapor Density (air=1):** | 4.7 | **Auto Ignition Temperature:** | >228°C(442°F) |
| **V.O.C. Content:** | 3.0%, 0.2 #/gal, 26 g/L (bulk)<br>2.9%, 0.2 #/gal, 25 g/L (aerosol) | **Partition Coefficient (octanol/water):** | <1 |
| **Flammable limits (estimated):** | LOWER: 0.6%<br>UPPER: 7% | **Viscosity:** | <7 centistokes @ 25°C |
| **pH:** | Not applicable | | |

## Section 10 • Stability and Reactivity

| | |
|---|---|
| **Chemical Stability:** | Product is stable under recommended storage conditions. |
| **Conditions to Avoid:** | Keep away from heat and ignition sources. |
| **Incompatibility:** | Reactive or incompatible with oxidizing agents. |
| **Hazardous Decomposition:** | These products are carbon oxides (CO, CO2) |
| **Hazardous Polymerization:** | Will not occur. |

# MATERIAL SAFETY DATA SHEET
# LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

## Section 11 • Toxicological Information

**Acute and Chronic Toxicity**

**A: General Product Information**

Following exposure to vapors, this material can produce central nervous system depression. High atmospheric concentrations can result in eye, nasal and respiratory tract irritation. However, if handled in accordance with good industrial hygiene practice, this product will not present a significant hazard in the workplace.

An acute toxicity study of this product has not been conducted. Information given in this section relates only to individual constituents contained in this preparation.

**B: Component Analysis**

| Ingredients | CASRN | LC-50 | LD-50 |
|---|---|---|---|
| Aliphatic Hydrocarbon | 64742-47-8 | >6.8 mg/L | >5 g/kg |
| Petroleum Oil | 64742-52-5 | Not established | Not established |
| Dipropylene glycol monomethyl ether | 34590-94-8 | Not established | Oral Rat 5400 µL/kg; Dermal Rabbit: 10 mL/kg |
| Carbon Dioxide (aerosol only) | 124-38-9 | Not established | Not established |
| Distillates (petroleum), solvent-refined heavy paraffinic | 64741-88-4 | Not established | Not established |

## Section 12 • Ecological Information

Ecological studies have not been conducted for this product. The following information is available for component(s) of this product.

**Ecotoxicity**:

| Effect on Organisms | Component | CASRN | Test | Species | Results |
|---|---|---|---|---|---|
| Acute Toxicity on Fishes | Aliphatic Hydrocarbon | 64742-47-8 | 96-hour $LC_{50}$ | Oncorhynchus mykiss | 2900 µg/L |
| | | | 4-day $LC_{50}$ | Lepomis macrochirus | 2200 µg/L |
| | Dipropylene glycol monomethyl ether | 34590-94-8 | 96-hour $EC_{50}$ | Pimephales promelas | >10000 mg/L |
| Acute Toxicity on Daphnia | Dipropylene glycol monomethyl ether | 34590-94-8 | 48-hour $EC_{50}$ | Daphnia magna | 1919 mg/L |
| Bacterial inhibition | No Data Available | | | | |
| Growth inhibition of algae | | | | | |
| Bioaccumulation in fish | | | | | |

For the 64742-47-8 component, no toxicity has been observed in water due to extremely low water solubility. If material is spilled on soil, some potential toxic effects could occur before biodegradation could remove material.

If spilled, the 64742-52-5 and 64741-88-4 constituents may kill grasses and small plants by interfering with transpiration. Spilled material may coat gill structures of fish resulting in suffocation if spilled in shallow, running water. This product may be toxic to amphibians by preventing dermal respiration. This product may also cause gastrointestinal distress to birds and mammals through ingestion. Biodegradation of this product is possible within 90 to 120 days in aerobic environments at temperatures above 21°C.

## Section 13 • Disposal Considerations

**Waste Status:** In its purchased form, non-aerosol material does not meet the definition of a RCRA hazardous waste. However, full aerosols are a RCRA hazardous waste carrying waste code D003.

**Disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Note:** Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

## Section 14 • Transport Information

**Aerosol**

| | | | | |
|---|---|---|---|---|
| **D.O.T. Ground** | **Shipping Name:** | Consumer Commodity | **UN Number:** | NA |
| | **Hazard Class:** | ORM-D | **Technical Name:** | NA |
| | **Subclass:** | NA | **Hazard Label:** | ORM-D Already on box |
| **Road/Rail - ADR/RID :** | **UN no:** | 1950 | **ADR Class:** | 2 |
| | **Packing group:** | NA | **Classification code:** | 5F |
| | **Name and Description:** | Aerosols, flammable | **Hazard ID no:** | NA |
| | **Labeling:** | 2.1 | | |
| **IMDG-IMO** | **UN no:** | 1950 | **Class:** | 2.1 |
| | **Shipping Name:** | Aerosols | **Subsidiary Risk:** | NA |
| | **Packing Instructions:** | P003, LP02 | **Packing group:** | NA |
| | **Marine pollutant:** | NO | **EmS:** | F-D, S-U |
| **IATA-ICAO:** | **UN no:** | 1950 | **Class:** | 2.2 |
| | **Shipping Name:** | Aerosols, flammable | **Subclass** | NA |
| | **Packing instructions:** | 203, Y203 (Ltd. Qty) | **Packing group:** | NA |
| | **Labeling:** | Flammable Gas | | |

**Bulk**

Non-Aerosols of this product are not regulated by any mode of transportation.

# MATERIAL SAFETY DATA SHEET
## LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

**Section 15 • Regulatory information**

**U.S. Federal Regulations**

**RCRA Hazardous Waste No.:** D003 (aerosols only)

**Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):** None

**Toxic Substances Control Act (TSCA):**
All components of this product are TSCA inventory listed and/or are exempt.

**Superfund Amendments and Reauthorization Act (SARA) Title III SARA Section 311/312 (40 CFR 370) Hazard Categories:** Sudden Release of Pressure (aerosols only), Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

**This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):** No individual section 313 component is present at or above 1%.

**Section 112 Hazardous Air Pollutants (HAPs):** None

**State Regulations**

**California:** This product does **not** contain chemical(s) known to the State of California to cause cancer, birth defects or reproductive harm.

**California and OTC States:** This product conforms to consumer regulations.

**New Jersey Right to Know:**
**New Jersey RTK:**
**Aerosol:** Aliphatic Hydrocarbon 64742-47-8 • Petroleum Oil 64742-52-5 • Petroleum Oxidate Ester 68602-85-7 • Calcium Dinonylnapthalene Sulfonate 57855-77-3 • Dipropylene Glycol Monomethyl Ether 34590-94-8 • Carbon Dioxide 124-38-9 • Dibasic Fatty Acid 61788-89-4
**Bulk:** Aliphatic Hydrocarbon 64742-47-8 • Petroleum Oil 64742-52-5 • Petroleum Oxidate Ester 68602-85-7 • Calcium Dinonylnapthalene Sulfonate 57855-77-3 • Dipropylene Glycol Monomethyl Ether 34590-94-8 • Dibasic Fatty Acid 61788-89-4

**International Regulations**

**Canadian Environmental Protection Act:** All of the components of this product are included on the Canadian Domestic Substances list (DSL).

**Canadian Workplace Hazardous Materials Information System WHMIS:**
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**WHMIS Classification:** Aerosol
Class A, Class B5, Class D2B

**WHMIS Classification:** Bulk
Class B3, Class D2B

# MATERIAL SAFETY DATA SHEET
## LPS® Magnum Premium Lubricant with PTFE

**Revision 5** **Revision Date: 10/2/08** **Supercedes: 9/24/08**

**Other Regulations**

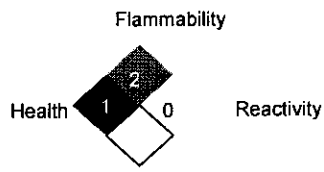
| | |
|---|---|
| Montreal Protocol listed ingredients: | None. |
| Stockholm Convention listed ingredients: | None. |
| Rotterdam Convention listed ingredients: | None. |
| RoHS Compliant: | Yes. |

## Section 16 • Other Information

MSDS#10616
Responsible Name:
Clea Johnson
Regulatory Affairs Coordinator

| HMIS 1996 | | HMIS III | |
|---|---|---|---|
| Health: | 1 | Health: | [/] 1 |
| Flammability: | 2 | Flammability aerosol:<br>Flammability bulk: | 4<br>2 |
| Reactivity: | 0 | Physical Hazard aerosol:<br>Physical Hazard bulk: | 2<br>0 |

**NFPA**




**Notice to Reader:**
To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Clea L Johnson, Regulatory Affairs Coordinator
LPS Laboratories
A division of Illinois Tool Works

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **LPS® Tapmatic® #1 Gold (Aerosol)**

**Other means of identification**

**Part Number** 40312

**Recommended use** A metal-cutting fluid designed for machining a variety of metals from steel to aluminium in lower speed applications such as hand-tapping.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Manufacturer**

**Company name** LPS Laboratories, a division of Illinois Tool Works, Inc.

**Address** 4647 Hugh Howell Rd.
Tucker, GA 30084

**Country** (U.S.A.)
Tel: +1 770-243-8800

**In Case of Emergency** 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

**Website** www.lpslabs.com

**E-mail** sds@lpslabs.com

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Flammable aerosols | Category 2 |
| | Gases under pressure | Compressed gas |
| **Health hazards** | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2A |
| | Aspiration hazard | Category 1 |
| **Environmental hazards** | Not classified. | |
| **OSHA defined hazards** | Not classified. | |

**Label elements**

**Signal word** Danger

**Hazard statement** Flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation.

**Precautionary statement**

**Prevention** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.

**Response** If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Storage** Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Petroleum Oil | | 64742-52-5 | 70 - 80 |
| Methyl Ester of Soybean Oil | | 67784-80-9 | 1 - 10 |
| Carbon Dioxide | | 124-38-9 | 1 - 5 |
| Dipropylene Glycol Monobutyl Ether | | 29911-28-2 | 1 - 5 |
| Methyl Oleate | | 67762-26-9 | 1 - 5 |

## 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed** Dermatitis. Rash. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin irritation. May cause redness and pain.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically.

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Call a POISON CENTER or doctor/physician if you feel unwell.

## 5. Fire-fighting measures

**Suitable extinguishing media** Dry chemical, CO2, water spray or regular foam.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Contents under pressure. Pressurized container may explode when exposed to heat or flame.

**Special protective equipment and precautions for firefighters** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**Fire-fighting equipment/instructions** In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.

**General fire hazards** Flammable aerosol.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

**Methods and materials for containment and cleaning up** Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Scoop up used absorbent into drums or other appropriate container. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**U.S. - OSHA**

| Components | Type | Value | Form |
|---|---|---|---|
| Petroleum Oil (CAS 64742-52-5) | PEL | 5 mg/m3 | Oil mist |

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Carbon Dioxide (CAS 124-38-9) | PEL | 9000 mg/m3 |
| | | 5000 ppm |

**ACGIH**

| Components | Type | Value | Form |
|---|---|---|---|
| Petroleum Oil (CAS 64742-52-5) | TWA | 5 mg/m3 | Oil mist |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Benzyl Acetate (CAS 140-11-4) | TWA | 10 ppm |
| Carbon Dioxide (CAS 124-38-9) | STEL | 30000 ppm |
| | TWA | 5000 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| Carbon Dioxide (CAS 124-38-9) | STEL | 54000 mg/m3 |
| | | 30000 ppm |
| | TWA | 9000 mg/m3 |
| | | 5000 ppm |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**

Chemical resistant gloves are recommended.

**Other**

Wear suitable protective clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

| | |
|---|---|
| **Thermal hazards** | Not applicable. |
| **General hygiene considerations** | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | Liquid. |
| **Physical state** | Gas. |
| **Form** | Aerosol. |
| **Color** | Gold. |
| **Odor** | Slight petroleum odor |
| **Odor threshold** | Not established |
| **pH** | Not applicable |
| **Melting point/freezing point** | Not established |
| **Initial boiling point and boiling range** | 465.8 °F (241 °C) |
| **Flash point** | 300.2 °F (149.0 °C) Cleveland Open Cup |
| **Evaporation rate** | < 0.1 BuAc |
| **Flammability (solid, gas)** | Flammable gas. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | Not established |
| **Flammability limit - upper (%)** | Not established |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | < 0.05 mm Hg @ 20°C |
| **Vapor density** | > 1 (air = 1) |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Not soluble |
| **Partition coefficient (n-octanol/water)** | < 1 |
| **Auto-ignition temperature** | Not established |
| **Decomposition temperature** | Not established |
| **Viscosity** | < 20 mm2/s |
| **Other information** | |
| **Heat of combustion** | > 30 kJ/g |
| **Percent volatile** | 0 % |
| **Specific gravity** | 0.88 - 0.9 @20°C |
| **VOC (Weight %)** | 0 % per US State & Federal Consumer Product Regulations |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | Hazardous polymerization does not occur. |
| **Conditions to avoid** | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Carbon oxides. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | May be harmful if swallowed. May be fatal if swallowed and enters airways. |
| **Inhalation** | Prolonged inhalation may be harmful. May cause irritation to the respiratory system. |
| **Skin contact** | Causes skin irritation. |
| **Eye contact** | Causes serious eye irritation. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Irritating to eyes, respiratory system and skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Exposure may cause temporary irritation, redness, or discomfort. |

**Information on toxicological effects**

**Acute toxicity** May be harmful if swallowed. May be fatal if swallowed and enters airways.

| Components | Species | Test Results |
|---|---|---|
| Benzyl Acetate (CAS 140-11-4) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Mouse | > 2000 mg/kg |
| | Rat | > 2000 mg/kg |
| Dipropylene Glycol Monobutyl Ether (CAS 29911-28-2) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rat | > 2000 mg/kg |
| *Inhalation* | | |
| LC50 | Rat | > 42.1 ppm |
| | | > 2.04 mg/l |
| *Oral* | | |
| LD50 | Mouse | 2160 mg/kg |
| | Rat | 2000 - 3000 ml/kg |
| | | 1820 - 2730 mg/kg |
| Methyl Oleate (CAS 67762-26-9) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 2000 mg/kg |
| *Oral* | | |
| LD50 | Rat | > 5000 mg/kg |
| Petroleum Oil (CAS 64742-52-5) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 2000 mg/kg |
| *Inhalation* | | |
| LC50 | Rat | > 2.5 mg/l |
| *Oral* | | |
| LD50 | Rat | > 2000 mg/kg |

| | |
|---|---|
| **Skin corrosion/irritation** | Causes skin irritation. |
| **Serious eye damage/eye irritation** | Causes serious eye irritation. |

**Respiratory or skin sensitization**

| | |
|---|---|
| **Respiratory sensitization** | Not a respiratory sensitizer. |
| **Skin sensitization** | This product is not expected to cause skin sensitization. |
| **Germ cell mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Carcinogenicity** | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |

**ACGIH Carcinogens**

Benzyl Acetate (CAS 140-11-4) A4 Not classifiable as a human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Benzyl Acetate (CAS 140-11-4) 3 Not classifiable as to carcinogenicity to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| Benzyl Acetate (CAS 140-11-4) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Medaka, high-eyes (Oryzias latipes) | 3.48 - 4.6 mg/l, 96 hours |

**Persistence and degradability** Not inherently biodegradable.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

Benzyl Acetate 1.96

**Mobility in soil** Readily absorbed into soil.

**Other adverse effects** None known.

## 13. Disposal considerations

**Disposal instructions** Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** D003: Waste Reactive material

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

## 14. Transport information

**DOT**

**UN number** UN1950

**UN proper shipping name** Aerosols, flammable, (each not exceeding 1 L capacity)

**Transport hazard class(es)**

**Class** 2.1

**Subsidiary risk** -

**Label(s)** 2.1

**Packing group** Not applicable.

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**Special provisions** N82

**Packaging exceptions** 306

**Packaging non bulk** None

**Packaging bulk** None

**IATA**

**UN number** UN1950

**UN proper shipping name** Aerosols, flammable

**Transport hazard class(es)**

| | |
|---|---|
| **Class** | 2.1 |
| **Subsidiary risk** | - |

| | |
|---|---|
| **Packing group** | Not applicable. |
| **Environmental hazards** | No. |
| **ERG Code** | 10L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**Other information**

| | |
|---|---|
| **Passenger and cargo aircraft** | Allowed. |
| **Cargo aircraft only** | Allowed. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS |

**Transport hazard class(es)**

| | |
|---|---|
| **Class** | 2 |
| **Subsidiary risk** | - |

| | |
|---|---|
| **Packing group** | Not applicable. |

**Environmental hazards**

| | |
|---|---|
| **Marine pollutant** | No. |

| | |
|---|---|
| **EmS** | F-D, S-U |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | This substance/mixture is not intended to be transported in bulk. |

**DOT**


**IATA; IMDG**


## 15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List**

Carbon Dioxide (CAS 124-38-9)

**US. New Jersey Worker and Community Right-to-Know Act**

Benzyl Acetate (CAS 140-11-4)
Carbon Dioxide (CAS 124-38-9)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Carbon Dioxide (CAS 124-38-9)

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 06-03-2014

**Version #** 01

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

# LUBRIPLATE®

## MATERIAL SAFETY DATA SHEET

**Section 1**

**PRODUCT NAME OR NUMBER**
LUBRIPLATE No. 630-A, 630-AA, 630-AAA, 630-2

**FORMULA**
Lithium Soap, Mineral Oil and Additives

**GENERIC/CHEMICAL NAME:**
Petroleum Lubricating Grease

**NSF Registration No:**
N/A

**Manufacturer's Name**
Fiske Brothers Refining Co., d/b/a LUBRIPLATE Lubricants Co.
**Address**
1500 Oakdale Ave., Toledo, Ohio 43605 - 129 Lockwood St., Newark, NJ 07105

**Emergency Telephone Number**
1-800-255-3924 - CHEM-TEL (24 hour)
**Telephone Number for Information**
419-691-2491 - Toledo Office

**Section 2 – Composition/Information on Ingredients**

| Ingredients with CAS#'s | CAS# | Percentage |
|---|---|---|
| Mineral Oil | 64742-52-5 | 80 - 90% |
| Lithium Thickener | 4485-12-5 | 0 - 10% |
| Sulfurized Fatty Oil | 68991-19-5 | 0 - 5% |
| Zinc Oxide | 1314-13-2 | 5 - 10% |

**Hazardous Material Identification System (HMIS):** Health - 1, Flammability - 1, Reactivity - 0
**Not a Controlled Product under (WHMIS) - Canada**
**Special Protection: See Section 9**

**Section 3 - Health Hazard Data**

**Threshold Limit Value** 5 mg/m$^3$ for oil mist in air. OSHA Regulation 29 CFR 1910.1000

**Effects of Overexposure** Prolonged or repeated skin contact may cause skin irritation. Product contacting the eyes may cause eye irritation. Human health risks vary from person to person. As a precaution, exposure to liquids, vapors, mists and fumes should be minimized. This product has a low order of acute oral toxicity, but minute amounts aspirated into the lungs during ingestion may cause mild to severe pulmonary injury.

**Carcinogenicity:** NTP? No IARC Monographs? No OSHA Regulated? No

**Section 4 - Emergency and First Aid Procedures**

**EYE CONTACT:** Flush with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

**SKIN CONTACT:** Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance or its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of the body.

**INHALATION:** Vapor pressure is very low and inhalation at room temperature is not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician.

**INGESTION:** If ingested, call a physician immediately. Do not induce vomiting.

**Section 5 - Fire and Explosion Hazard Data**

**Flash Point (Method Used)** COC - 400$^{o}$F **Flammable Limits** **LEL** 0.9% **UEL** 7.0%

**Extinguishing Media** Foam, Dry Chemical, Carbon Dioxide or Water Spray (Fog)

**Special Fire Fighting Procedures** Cool exposed containers with water. Use air-supplied breathing equipment for enclosed or confined spaces.

**Unusual Fire and Explosion Hazards** Do not store or mix with strong oxidants. Empty containers retain residue. Do not cut, drill, grind, or weld, as they may explode.

**PRODUCT NAME OR NUMBER -** LUBRIPLATE No. 630-A, 630-AA, 630-AAA, 630-2

## Section 6 - Physical/Chemical Characteristics

| | | | |
|---|---|---|---|
| **Boiling Point** | >550°F | **Specific Gravity ($H_2O$ = 1)** | 0.94 - 0.95 |
| **Vapor Pressure (mm Hg.)** | <0.01 | **Melting Point** | Semi-solid |
| **Vapor Density (AIR = 1)** | >5 | **Evaporation Rate (Butyl Acetate = 1)** | <0.01 |
| **Solubility in Water** | Negligible | | |
| **Appearance and Odor** | Smooth, tan grease with mineral oil odor. | | |

## Section 7 - Reactivity Data

**Stability** Unstable / Stable X — **Conditions to Avoid** N/A

**Incompatibility (Materials to Avoid)** Avoid contact with strong oxidants like liquid chlorine, concentrated oxygen.

**Hazardous Decomposition or Byproducts** May form $SO_2$. If incomplete combustion, Carbon Monoxide.

**Hazardous Polymerization** May Occur / Will Not Occur X — **Conditions to Avoid** N/A

## Section 8 - Spill or Leak Procedures

**Steps to be taken in case material is released or spilled**
Scrape up grease, wash remainder with suitable petroleum solvent or add absorbent. Keep petroleum products out of sewers and watercourses. Advise authorities if product has entered or may enter sewers and watercourses.

**Waste disposal method**
Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste disposal facility or site.

**SARA/TITLE III, Section 313 Status** - Zinc Compounds < 6%

## Section 9 - Special Protection Information

**Respiratory Protection (Specify type)** Normally not needed

**Ventilation** **Local Exhaust** Used to capture fumes and vapors — **Special** N/A
**Mechanical (General)** — **Other** N/A

**Protective Gloves** Use oil-resistant gloves, if needed. **Eye Protection** If chance of eye contact, wear goggles.

**Other Protective Equipment** Use oil-resistant apron, if needed.

## Section 10 - Special Precautions

**Precautions to be taken in handling and storing**
Keep containers closed when not in use. Do not handle or store near heat, sparks, flame, or strong oxidants.

**Other Precautions**
Remove oil-soaked clothing and launder before reuse. Cleanse skin thoroughly after contact.



**Date Prepared:** July 26, 2007 **Prepared by:** James R. Kontak

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Toledo, OH 43605
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**Sales and Tech Service Support**
Phone: 1-800-733-4755

# LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oils

**LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oils** are of the dual-purpose or multi-functional type for use in hydraulic applications, air compressors, turbines, gear cases, and general lubrication. **LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oils** are heavy duty, extreme pressure, and anti-wear oils designed for high performance in hydraulic systems. They can withstand elevated temperatures and high pressures which results in lower maintenance costs by reducing ring and vane wear, thus extending pump life.

## LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oil Features:

High natural V.I. for stable viscosities throughout a wider operating temperature range.
High Aniline Points for controlled seal-swelling characteristics.
Extreme Pressure Properties.
Rust and Corrosion Resistant Properties.
Chemical and Mechanical Stabilities.
Foam Suppression Properties.
Good Heat Transfer Properties.
Thermal Oxidation Stability.
Good Demulsibility Properties.
Excellent Dielectric Strength.

Typical tests on **LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oils** are as follows:

| Typical Tests | HO-0 | HO-l | HO-2 | HO-2A |
|---|---|---|---|---|
| Viscosity SUS @ 100°F | 136.6 | 196.2 | 336 | 430 |
| cSt @ 40°C | 29.07 | 42.48 | 73.53 | 94.38 |
| Viscosity SUS @ 210°F | 43.3 | 47.2 | 56.7 | 62.5 |
| cSt @ 100°C | 5.30 | 6.53 | 9.37 | 11 |
| Viscosity Index | 116 | 104 | 104 | 101 |
| Flash Point, °F | 425 | 470 | 500 | 505 |
| °C | 218 | 243 | 260 | 263 |
| Fire Point, °F | 460 | 505 | 535 | 550 |
| °C | 238 | 263 | 279 | 289 |
| API Gravity | 33.8 | 32.5 | 31.8 | 30.6 |
| Color | <1.0 | <1.0 | <1.0 | <1.5 |
| Pour Point, °F | -35 | -30 | -15 | -10 |
| °C | -37 | -34 | -26 | -23 |
| Approximate SAE No. | SAE-10 | SAE-20 | SAE-20 | SAE-30 |
| ISO Grade | 32 | 46 | 68 | 100 |
| Aniline Point, °F | 214 | 220 | 226 | 231 |
| Oxidation per ASTM D-943 | ----------Typically Above 3000 Hr.---------- | | | |
| 4-Ball Wear mm Scar Diameter | 0.50 | 0.43 | 0.46 | 0.46 |
| Dielectric Strength | ----------Typically Above 35 kv. ---------- | | | |

(Over)

**LUBRIPLATE HO-0, HO-1, HO-2 & HO-2A Hydraulic Oils – Cont'd:**

| TEMPERATURE °F | °C | VISCOSITY SUS HO-0 | HO-l | HO-2 | HO-2A |
|---|---|---|---|---|---|
| 0 | -17.8 | 5,400 | 10,000 | 23,000 | 50,000 |
| 10 | -12.2 | 3,200 | 5,800 | 12,000 | 25,000 |
| 20 | -6.7 | 2,000 | 3,500 | 6,900 | 14,000 |
| 30 | -1.1 | 1,300 | 2,200 | 4,000 | 8,000 |
| 40 | 4.4 | 900 | 1,400 | 2,500 | 4,800 |
| 50 | 10.0 | 640 | 960 | 1,650 | 3,100 |
| 60 | 15.6 | 460 | 670 | 1,100 | 2,000 |
| 70 | 21.1 | 340 | 480 | 760 | 1,350 |
| 80 | 26.7 | 260 | 360 | 550 | 950 |
| 90 | 32.2 | 200 | 270 | 410 | 680 |
| 100 | 37.8 | 160 | 215 | 310 | 520 |
| 110 | 43.3 | 130 | 168 | 235 | 380 |
| 120 | 48.9 | 109 | 136 | 186 | 295 |
| 130 | 54.4 | 92 | 112 | 150 | 230 |
| 140 | 60.0 | 80 | 96 | 124 | 186 |
| 150 | 65.6 | 71 | 83 | 105 | 150 |
| 160 | 71.1 | 64 | 73 | 90 | 127 |
| 170 | 76.7 | 59 | 66 | 78 | 108 |
| 180 | 82.2 | 54 | 60 | 70 | 92 |
| 190 | 87.8 | 51 | 55 | 63 | 81 |
| 200 | 93.5 | 48 | 52 | 58 | 72 |
| 210 | 99.0 | 46 | 49 | 54 | 66 |
| 220 | 104.5 | 44 | 46.5 | 51 | 60.5 |
| 230 | 110.0 | 42.5 | 44.5 | 48 | 56 |
| 240 | 115.5 | 41 | 43 | 46 | 53 |

| Packaging Available | PART NUMBERS HO-0 | HO-l | HO-2 | HO-2A |
|---|---|---|---|---|
| Carton 4/1 Gallons | L0760-057 | L0761-057 | L0762-057 | L0763-057 |
| 5 Gallon Pail | L0760-060 | L0761-060 | L0762-060 | L0763-060 |
| 16 Gallon Drum | L0760-061 | L0761-061 | L0762-061 | L0763-061 |
| 55 Gallon Drum | L0760-062 | L0761-062 | L0762-062 | L0763-062 |

Printed in USA
Revised 5/25/11

# SAFETY DATA SHEET

SPO-222; SPO-233; SPO-244; SPO-255; SPO-266; SPO-277; SPO-288; SPO-299; SPO-MG

## Section 1. Identification

**GHS product identifier** : SPO-222; SPO-233; SPO-244; SPO-255; SPO-266; SPO-277; SPO-288; SPO-299; SPO-MG

**Other means of identification** : Not available.

**Product type** : Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

**Product use** : Petroleum lubricating oil

**Area of application** : Industrial applications.

**Supplier/Manufacturer** : LUBRIPLATE® Lubricants Co.
129 Lockwood St.
Newark, NJ 07105
Telephone no.: 1-973-589-9150

**e-mail address of person responsible for this SDS** : SDS@lubriplate.com

**Emergency telephone number (with hours of operation)** : CHEM-TEL 1-800-255-3924 (24 hour)

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : H319 EYE IRRITATION - Category 2A

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Warning

**Hazard statements** : H319 - Causes serious eye irritation.

**Precautionary statements**

**Prevention** : P280 - Wear eye or face protection.
P264 - Wash hands thoroughly after handling.

**Response** : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

**Storage** : Not applicable.

## Section 2. Hazards identification

**Disposal** : Not applicable.

**Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.

**Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

### CAS number/other identifiers

**CAS number** : Not applicable.

**Product code** : Not available.

| Ingredient name | Other names | % | CAS number |
|---|---|---|---|
| Residual oils (petroleum), solvent-dewaxed | - | ≥90 | 64742-62-7 |
| Distillates (petroleum), hydrotreated light paraffinic | - | ≥90 | 64742-55-8 |
| Distillates (petroleum), hydrotreated heavy paraffinic | - | ≥90 | 64742-54-7 |
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | - | ≥1 - <3 | 68649-42-3 |
| Methacrylate copolymer | - | ≥1 - <3 | - |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

## Section 4. First aid measures

Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Defatting to the skin. May cause skin dryness and irritation.

**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking

**Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
phosphorus oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Residual oils (petroleum), solvent-dewaxed | **ACGIH TLV (United States, 3/2015).**<br>TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 5 mg/m³ 10 hours. Form: Mist<br>STEL: 10 mg/m³ 15 minutes. Form: Mist<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 5 mg/m³ 8 hours. |
| Distillates (petroleum), hydrotreated light paraffinic | **ACGIH TLV (United States, 3/2015).**<br>TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 5 mg/m³ 10 hours. Form: Mist<br>STEL: 10 mg/m³ 15 minutes. Form: Mist<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 5 mg/m³ 8 hours. |
| Distillates (petroleum), hydrotreated heavy paraffinic | **ACGIH TLV (United States, 3/2015).**<br>TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction<br>**NIOSH REL (United States, 10/2013).**<br>TWA: 5 mg/m³ 10 hours. Form: Mist<br>STEL: 10 mg/m³ 15 minutes. Form: Mist<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 5 mg/m³ 8 hours. |

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

## Section 8. Exposure controls/personal protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Transparent oil.]

**Color** : Amber.

**Odor** : Mineral oil.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point** : Pour point: -37 to -9°C (-34.6 to 15.8°F)

**Boiling point** : >288°C (>550.4°F)

**Flash point** : Open cup: 213 to 246°C (415.4 to 474.8°F) [Cleveland.]

**Evaporation rate** : <0.01 (butyl acetate = 1)

**Flammability (solid, gas)** : Not applicable.

**Lower and upper explosive (flammable) limits** : Lower: 0.9%
Upper: 7%

**Vapor pressure** : <0.0013 kPa (<0.01 mm Hg)

**Vapor density** : >5 [Air = 1]

**Relative density** : 0.87 to 0.9 [Water = 1]

**Solubility** : Not available.

**Solubility in water** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : 240 to 304°C (464 to 579.2°F)

**Decomposition temperature** : Not available.

**SADT** : Not available.

**Viscosity** : Kinematic (40°C (104°F)): 0.63 to 9.5 $cm^2/s$ (63 to 950 cSt)

**Physical/chemical properties comments** : Kinematic viscosity (100 °C (212 °F)): 9 $mm^2/s$ to 50 $mm^2/s$

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

**Conditions to avoid** : Keep away from heat and flame. Keep away from all sources of ignition.

**Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials.
Chlorine

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated light paraffinic | LC50 Inhalation Dusts and mists | Rat - Male, Female | >5.53 mg/l | 4 hours |

#### Irritation/Corrosion

Not available.

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : The mineral oils in the product contain < 3% DMSO extract (IP 346).

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | Category 3 | Not applicable. | Respiratory tract irritation |

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

## Section 11. Toxicological information

| Name | Result |
|---|---|
| Residual oils (petroleum), solvent-dewaxed | ASPIRATION HAZARD - Category 1 |
| Distillates (petroleum), hydrotreated light paraffinic | ASPIRATION HAZARD - Category 1 |
| Distillates (petroleum), hydrotreated heavy paraffinic | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Defatting to the skin. May cause skin dryness and irritation.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking

**Ingestion** : No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

Not available.

**General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

## Section 11. Toxicological information

Not available.

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Residual oils (petroleum), solvent-dewaxed | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 6 % - 28 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Residual oils (petroleum), solvent-dewaxed | - | - | Not readily |

### Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Distillates (petroleum), hydrotreated light paraffinic | >2 | - | low |

### Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - |
| **Transport hazard class(es)** | - | - | - |
| **Packing group** | - | - | - |
| **Environmental hazards** | No. | No. | No. |
| **Additional information** | - | - | - |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR**: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts; p-dodecylphenol

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**Clean Water Act (CWA) 307**: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

# Section 15. Regulatory information

**Classification** : Immediate (acute) health hazard

**Composition/information on ingredients**

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| Residual oils (petroleum), solvent-dewaxed | ≥90 | No. | No. | No. | Yes. | No. |
| Distillates (petroleum), hydrotreated light paraffinic | ≥90 | No. | No. | No. | Yes. | No. |
| Distillates (petroleum), hydrotreated heavy paraffinic | ≥90 | No. | No. | No. | Yes. | No. |
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | ≥1 - <3 | No. | No. | Yes. | Yes. | No. |
| Methacrylate copolymer | ≥1 - <3 | No. | No. | No. | Yes. | No. |

**SARA 313**

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | 68649-42-3 | ≥1 - <3 |
| **Supplier notification** | Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | 68649-42-3 | ≥1 - <3 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

**Massachusetts** : The following components are listed: MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT PARAFFINIC

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; ZINC compounds

**Pennsylvania** : The following components are listed: ZINC COMPOUNDS

**California Prop. 65**

None of the components are listed.

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol (Annexes A, B, C, E)**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Inform Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

| | | |
|---|---|---|
| Health | * | 2 |
| Flammability | | 1 |
| Physical hazards | | 0 |

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

### National Fire Protection Association (U.S.A.)


**Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.**

**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

### Procedure used to derive the classification

| Classification | Justification |
|---|---|
| Eye Irrit. 2A, H319 | Calculation method |

### History

**Date of issue/Date of revision** : 10/07/2015

**Date of previous issue** : 10/01/2015

**Version** : 2

**Prepared by** : IHS

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

**References** : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

## Section 16. Other information

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# MATERIAL SAFETY DATA SHEET

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**LUBRIPLATE Lubricants Co.**
**129 Lockwood St.**
**Newark, NJ 07105**

**Emergency Telephone Number:**
**1-800-255-3924-CHEM-TEL (24 hour)**
**Telephone Number for information:**
**1-973-589-9150**

**SUBSTANCE: LUBRIPLATE® Syn Lube 32**

**TRADE NAMES/SYNONYMS:**

**PRODUCT USE:** Synthetic lubricating oil

**CREATION DATE:** 04/02/2008
**REVISION DATE:** 12/20/2012

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

**COMPONENT:** Polyalphaolefin
**CAS NUMBER:** 68037-01-4
**EC NUMBER (EINECS):** 500-183-1
**PERCENTAGE:** 85-90

**COMPONENT:** Pentaerythritol ester
**CAS NUMBER:** 7299-99-2
**EC NUMBER (EINECS):** 230-743-8
**PERCENTAGE:** 5-10

**COMPONENT:** n-phenyl-1-naphthylamine
**CAS NUMBER:** 90-30-2
**EC NUMBER (EINECS):** 201-983-0
**PERCENTAGE:** 0-1

**COMPONENT:** Triphenyl phosphorothionate
**CAS NUMBER:** 597-82-0
**EC NUMBER (EINECS):** 209-909-9
**PERCENTAGE:** 0-1

**COMPONENT:** Alkylated diphenylamine
**CAS NUMBER:** 68411-46-1
**EC NUMBER (EINECS):** 270-128-1
**PERCENTAGE:** 0-1

**COMPONENT:** Substituted succinimide
**CAS NUMBER:** NA

**EC NUMBER (EINECS):** NA
**PERCENTAGE:** 0-1

**COMPONENT:** Methyl amines
**CAS NUMBER:** 80584-90-3/80595-74-0
**EC NUMBER (EINECS):** 279-503-4/279-514-4
**PERCENTAGE:** 0-1

**COMPONENT:** Kerosene
**CAS NUMBER:** 8008-20-6
**EC NUMBER (EINECS):** 232-366-4
**PERCENTAGE:** 0-1

**COMPONENT:** Acrylate copolymer
**CAS NUMBER:** 26376-86-3
**EC NUMBER (EINECS):** not assigned
**PERCENTAGE:** 0-1

## SECTION 3 HAZARDS IDENTIFICATION

**POTENTIAL HEALTH EFFECTS:**
**INHALATION:**
**SHORT TERM EXPOSURE:** Irritation
**LONG TERM EXPOSURE:** Lung damage
**SKIN CONTACT:**
**SHORT TERM EXPOSURE:** Irritation
**LONG TERM EXPOSURE:** Irritation, skin disorders
**EYE CONTACT:**
**SHORT TERM EXPOSURE:** Irritation
**LONG TERM EXPOSURE:** No information available
**INGESTION:**
**SHORT TERM EXPOSURE:** Diarrhea, difficulty breathing
**LONG TERM EXPOSURE:** no information on significant adverse effects

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS):**
Health – 1
Flammability – 1
Reactivity – 0

**Not a Controlled Product under (WHMIS) – Canada** **Special Protection: See Section 8**

## SECTION 4 FIRST AID MEASURES

**INHALATION:** Vapor pressure is very low and inhalation at room temperature is not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician.

**SKIN CONTACT:** Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance or its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of body.

**EYE CONTACT:** Flush eyes with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

**INGESTION:** If ingested, call a physician immediately. Do not induce vomiting.

## SECTION 5 FIRE FIGHTING MEASURES

**FIRE AND EXPLOSION HAZARDS:** Slight fire hazard

**EXTINGUISHING MEDIA:** Foam, dry chemical, carbon dioxide or water spray (fog)

**FIRE FIGHTING:** Cool exposed containers with water. Use air-supplied breathing equipment for enclosed or confined spaces.

**HAZARDOUS COMBUSTION PRODUCTS:**
Thermal decomposition products or combustion: oxides of carbon, oxides of sulphur

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Do not store or mix with strong oxidants. Empty containers contain residue. Do not cut, drill, grind, or weld, as they may explode.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**OCCUPATIONAL RELEASE:** Recover liquid, wash remainder with suitable petroleum solvent or add absorbent. Keep petroleum products out of sewers and watercourses. Advise authorities if product has entered or may enter sewers and watercourses.

## SECTION 7 HANDLING AND STORAGE

**STORAGE:** Store and handle in accordance with all current regulations and standards. Keep container tightly closed. Keep away from heat, sparks, and flame. See original container for storage recommendations. Keep separated from incompatible substances.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**EXPOSURE LIMITS:**
**OIL MIST:**
5 mg/$m^3$ UK OES TWA
10mg/$m^3$ UK OES STEL

**VENTILATION:** Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**EYE PROTECTION:** Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear appropriate chemical resistant clothing.

**GLOVES:** Wear appropriate chemical resistant (nitrile) gloves.

**RESPIRATOR:** Consider the need for appropriate protective equipment, such as self-contained breathing apparatus, adequate masks and filters.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** liquid
**APPEARANCE:** clear
**COLOUR:** water-white
**PHYSICAL FORM:** oil
**ODOR:** odorless
**BOILING POINT:** >288 C
**FREEZING POINT:** Not available
**FLASH POINT:** 243 C (COC)
**LOWER FLAMMABLE LIMIT:** 0.9% by volume
**UPPER FLAMMABLE LIMIT:** 7.0% by volume
**AUTO IGNITION:** 263 C (COC)
**VAPOUR PRESSURE:** <0.01 mm Hg
**VAPOR DENSITY (air=1):** >5
**SPECIFIC GRAVITY (water=1):** 0.8270
**DENSITY:** not available
**WATER SOLUBILITY:** negligible
**pH:** not available
**VOLATILITY:** not available
**ODOR THRESHOLD:** not available
**EVAPORATION RATE:** <0.01 (Butyl acetate=1)
**VISCOSITY:** 6 $mm^2/s$ @ 100 C
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** not available

## SECTION 10 STABILITY AND REACTIVITY

**REACTIVITY:** Stable at normal temperatures and pressures

**CONDITIONS TO AVOID:** Avoid heat, flames, sparks and other sources of ignition. Avoid contact with strong oxidants like liquid chlorine, concentrated oxygen.

**INCOMPATIBLES:** Oxidising materials, chlorine

**HAZARDOUS DECOMPOSITION:**
Thermal decomposition products or combustion: oxides of carbon, oxides of sulphur

**POLYMERISATION:** Will not polymerise.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Polyalphaolefin:**
**TOXICITY DATA:**
Greater than 2,000 mg/kg LD50 oral-rat

**Pentaerythritol ester:**
**TOXICITY DATA:**
No data available

**n-phenyl-1-naphthylamine:**
**TOXICITY DATA:**
Greater than 5,000 mg/kg LD50 oral-rat

**Alkylated diphenylamine:**
**TOXICITY DATA:**
Greater than 5,000 mg/kg LD50 oral-rat

**Triphenyl phosphorothionate:**
**TOXICITY DATA:**
Greater than 10,000 mg/kg LD50 oral-rat

**Substituted succinimide:**
**TOXICITY DATA:**
12 g/kg LD50 oral-rat

**Methyl amines:**
**TOXICITY DATA:**
Greater than 2,000 mg/kg LD50 oral-rat

**Kerosene:**
**TOXICITY DATA:**
No data available

**Acrylate copolymer:**
**TOXICITY DATA:**
Greater than 7,940 mg/kg LD50 oral-rat

## SECTION 12 ECOLOGICAL INFORMATION

Not available

## SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations

## SECTION 14 TRANSPORT INFORMATION

**LAND TRANSPORT ADR:** No classification assigned.

**LAND TRANSPORT RID:** No classification assigned.

**AIR TRANSPORT IATA:** No classification assigned.

**AIR TRANSPORT ICAO:** No classification assigned.

**MARITIME TRANSPORT IMDG:** No classification assigned.

## SECTION 15 REGULATORY INFORMATION

EUROPEAN REGULATIONS:
EC CLASSIFICATION (CALCULATED): Not classified as dangerous.

## SECTION 16 OTHER INFORMATION

**The above information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of LUBRIPLATE Lubricants Company. The data on these sheets relates only to the specific material designated herein. LUBRIPLATE Lubricants Company assumes no legal responsibility for use or reliance upon this data.**

ARKEMA

# LUPEROX DDM-9

Material Safety Data Sheet

**Arkema Inc.**

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Functional Additives**
2000 Market Street
21st Floor
Philadelphia, PA 19103-3222

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

| Information Telephone Numbers | Phone Number | Available Hrs |
|---|---|---|
| Customer Service Number | (800) 331-7654 | 8:00 AM - 5:00 PM EST |

| | |
|---|---|
| Product Name | LUPEROX DDM-9 |
| Product Synonym(s) | |
| Chemical Family | Ketone Peroxide |
| Chemical Formula | |
| Chemical Name | |
| EPA Reg Num | |
| Product Use | Polymerization Initiator |

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient Name | CAS RegistryNumber | Typical % | OSHA |
|---|---|---|---|
| Methyl ethyl ketone peroxide(s) | 1338-23-4 | 32-34% By Wt. | Y |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | 6846-50-0 | 58% By Wt. | Y |
| Hexylene glycol | 107-41-5 | 6% By Wt. | Y |
| Proprietary ingredient | NJTSN 03365400-5071P | <or= 1% By Wt. | Y |
| Methyl ethyl ketone | 78-93-3 | <or= 2% By Wt. | Y |
| Hydrogen peroxide | 7722-84-1 | <or= 1% By Wt. | Y |

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are either on the TSCA Inventory list or exempt as impurities.

## 3 HAZARDS IDENTIFICATION

**Emergency Overview**
Clear oily liquid, ketone odor

DANGER!
ORGANIC PEROXIDE
CAUSES EYE BURNS. MAY CAUSE BLINDNESS.
HARMFUL IF SWALLOWED.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

**Potential Health Effects**

Skin contact and inhalation are expected to be the primary routes of exposure to this material. Based on its composition, it is anticipated to be moderately toxic if swallowed, slightly toxic if absorbed through skin, practically non-toxic if inhaled, severely irritating to skin and corrosive to eyes. Prolonged or repeated contact may cause an allergic skin reaction. Overexposure to vapor may lead to digestive disorders, narcosis and central nervous system (CNS) effects such as headache, dizziness, loss of coordination, loss of consciousness or convulsions. If swallowed, this material may cause CNS effects as noted above, irritation of the mouth, throat and stomach and, in severe cases, death.

## 4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush the area with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If breathing is difficult, get medical attention.

## 5 FIRE FIGHTING MEASURES

**Fire and Explosive Properties**

| | | | |
|---|---|---|---|
| Auto-Ignition Temperature | NE | | |
| Flash Point | 95 C | Flash Point Method | Seta CC |
| Flammable Limits- Upper | NE | | |
| Lower | NE | | |

**Extinguishing Media**

Use water spray, foam or dry chemical.

**Fire Fighting Instructions**

Fight fire with large amounts of water from a safe distance. Use water spray to cool containers exposed to fire. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use. After a fire, wait until the material has cooled to room temperature before initiating clean up activities.

**Fire and Explosion Hazards**

Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

## 6 ACCIDENTAL RELEASE MEASURES

**In Case of Spill or Leak**

Use inert, non-combustible absorbent materials such as sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay directly on the spilled peroxide, then wet down (dampen) the mixture with water. DO NOT USE vermiculite or peat moss. Sweep or scoop up using non-sparking tools and place into a polyethylene bag for disposal. The sweepings should be wetted down further with water. Dispose of immediately. After all of the material has been collected, wash down the area with detergent and water.

## 6 ACCIDENTAL RELEASE MEASURES

Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

## 7 HANDLING AND STORAGE

**Handling**

Contact with incompatible materials or exposure to temperatures exceeding SADT (See Section (9) may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite. Keep away from heat sparks and flame. Avoid contamination. Use explosion proof equipment.

Do not get in eyes, on skin or on clothing.
Do not taste or swallow.
Avoid breathing vapor or mist.
Avoid prolonged or repeated contact with skin.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Do not reuse container as it may retain hazardous product residue.

**Storage**

Store below 38 C/100 F to maintain stability and active oxygen content. Detached storage is preferred. Store out of direct sunlight in a cool well-ventilated place. Store away from combustibles and incompatible materials. Refer also to National Fire Protection Agency (NFPA) Code 432, Code for the Storage of Organic Peroxide Formulations.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

**Eye / Face Protection**

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

**Skin Protection**

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Airborne Exposure Guidelines for Ingredients**

| Exposure Limit | | Value |
|---|---|---|
| **Hexylene glycol** | | |
| ACGIH CEILING | - | 25 ppm (121 mg/m3) |
| **Hydrogen peroxide** | | |
| ACGIH TWA | - | 1 ppm 1.4 mg/m3 |
| OSHA TWA PEL | - | 1 ppm 1.4 mg/m3 |
| **Methyl ethyl ketone** | | |
| ACGIH STEL | - | 300 ppm (885 mg/m3) |
| ACGIH TWA | - | 200 ppm (590 mg/m3) |
| OSHA TWA PEL | - | 200 ppm (590 mg/m3) |
| **Methyl ethyl ketone peroxide(s)** | | |
| ACGIH CEILING | - | 0.2 ppm (1.5 mg/m3) |

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance/Odor | Clear oily liquid, ketone odor |
| pH | NA |
| Specific Gravity | 1.0088 @ 20 C |
| Vapor Pressure | 5.2 torr @ 19C |
| Vapor Density | NE |
| Melting Point | NE |
| Freezing Point | NE |
| Boiling Point | NE |
| Solubility In Water | Slight |
| Viscosity | 17.30 cps @ 20C |
| SADT | 75 C/169 F (45 lb ctn.) |

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generated a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Other Physical Data

Active Oxygen Content = 8.7-9.0%
Refractive index = 1.4356

## 10 STABILITY AND REACTIVITY

**Stability**

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

**Hazardous Polymerization**

Does not occur.

**Incompatibility**

Contact with strong acids, alkalis, oxidizers, transition metal salts, promoters/accelerators & reducing agents may result in a violent decomposition reaction or product degradation. (see SECTION 16)

**Hazardous Decomposition Products**

Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

## 11 TOXICOLOGICAL INFORMATION

**Toxicological Information**

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
Single exposure (acute) studies indicate that this material is moderately toxic if swallowed (rat LD50 484 mg/kg), slightly toxic if absorbed through skin (rabbit LD50 4,000 mg/kg), practically non-toxic if inhaled (rat 4-hr LC50 17-50 mg/l), corrosive to rabbit eyes and moderately irritating to rabbit skin (4-hr exposure, 4.5/8.0).

Following an allergic skin reaction in a paint sprayer, patch testing produced an allergic skin reaction with this material as well as other components of the paint. However, subsequent patch testing produced no allergic skin reactions in 34 healthy subjects. No skin allergy was observed in guinea pigs following repeated exposure. Repeated oral administration resulted in decreased body weight, mild liver and kidney injury and death in rats. Following repeated application to the skin of rats and mice, severe skin damage and animal deaths (only at the highest dose levels) were the primary effects. Spleen and bone marrow changes considered secondary to the severe skin damage were noted in animals at the high doses. Higher doses applied to rat and mouse skin for a shorter time produced similar effects. Long-term repeated skin application was reported to enhance skin tumor production in mice irradiated with UVB. Genetic changes were observed in tests using bacteria or animal cells. However, no genetic changes occurred in a test using animals.

2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate
Single exposure (acute) studies indicate that this material is no more than slightly toxic if swallowed (rat LD50 >3,200 mg/kg), practically non-toxic if absorbed through skin (guinea pig LD50 >20 ml/kg) or inhaled (rat 6-hr LC50 >5.3 mg/l), and slightly irritating to rabbit eyes and guinea pig skin.

No skin allergy was observed in guinea pigs following repeated exposures. Increased liver weights, which were probably adaptive changes due to the induction of drug metabolizing enzymes in these tissues, were observed in rats or dogs following long-term administration in their feed. This material is eliminated in the excreta of rats following a single oral dose with little or no retention in the tissues or organs.

Hexylene Glycol
Single exposure (acute) studies indicate that this material is slightly toxic if swallowed (rat, rabbit, mice & guinea pig LD50 2,800-4,700 mg/kg), practically non-toxic if absorbed through skin (rabbit LD50 12,300-13,200 mg/kg), severely irritating to rabbit eyes and moderately irritating to rabbit skin. No deaths occurred in rats exposed to about 160 ppm for 8-hours.

## 11 TOXICOLOGICAL INFORMATION

No skin allergy was observed in guinea pigs following repeated exposure. Skin application showed minimal irritation and no skin allergy in humans. Patch tests have shown allergic skin responses in individuals working with cutting oils. Short-term inhalation exposure produced no adverse effects in rats and rabbits. Repeated exposure in the diet produced no adverse effects on growth, behavior or fertility in rats, although kidney changes were noted, and some signs of developmental toxicity were observed at doses which produced maternal toxicity. No genetic changes were observed in tests using bacteria or animal cells.

Methyl Ethyl Ketone
Single exposure (acute) studies indicate that this material is no more than slightly toxic if swallowed (rat LD50 2,700-5,600 mg/kg), practically non-toxic if absorbed through skin (rabbit (LD50 5,000-13,000 mg/kg) or inhaled (rat 4-hr LC50 11,700 ppm) and moderately irritating to rabbit eyes and skin.

Repeated exposure of humans produced no skin irritation or skin allergy. Central nervous system (CNS) effects and peripheral neuropathy have been reported in the industrial setting following exposure to mixtures containing this material; however, these mixtures contained other solvents known to cause nervous system injury. Following repeated inhalation exposure, slight changes in organ weights and blood chemistry were reported in rats. No evidence of nervous system injury following long-term inhalation exposure has been observed in rats, chickens, mice or cats. Animal studies have shown an increased severity of, or shortened onset of, irreversible nervous system effects due to n-hexane and methyl butyl ketone, as well as effects of chloroform and carbon tetrachloride. No increase in the incidence of tumors was observed in long-term skin application studies in mice. A small number of major birth defects were reported in the offspring of rats exposed by inhalation during pregnancy at a level that produced toxic effects in the offspring, but not in the mothers. However, no birth defects were found in a second study with rats using very similar exposure conditions, while adverse effects were noted in the mothers and their offspring. In mice exposed by inhalation during pregnancy, toxic effects were observed in the mothers (mild effects only) and their offspring. Generally, no genetic changes were observed in tests using bacteria, animal cells or animals.

## 12 ECOLOGICAL INFORMATION

**Ecotoxicological Information**

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
This material is slightly toxic to guppies (96-hr LC50 44.2 mg/l) and daphnia (48-hr EC50 39 mg/l). It is moderately toxic to algae (72-hr EC50 3.2 mg/l).

2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate
This material is no more than moderately toxic to fathead minnow (96-hr LC50 >1.55 mg/l), ramshorn snail (96-hr LC50 >1.55 mg/l), aquatic earthworm (96-hr LC50 >1.55 mg/l), sideswimmer (96-hr LC50 >1.55 mg/l), pill bug (96-hr LC50 >1.55 mg/l), flatworm (96-hr LC50 >1.55 mg/l),and Daphnia (96-hr EC50 >1.46 mg/l).

Hexylene Glycol
This material has been reported to be practically non-toxic to a variety of aquatic organisms. Freshwater fish including rainbow trout, bluegill sunfish, fathead minnow, mosquito fish, goldfish and channel catfish had LC50 values in excess of 1,000 mg/l and generally were in the range of 8,000 to 10,000 mg/l. Aquatic invertebrates such as Daphnia and crayfish had EC50 values greater than 2,800 mg/l.

Methyl Ethyl Ketone
This material is practically non-toxic to goldfish, brine shrimp, Daphnia magna, fathead minnow, mosquito fish, bluegill sunfish and golden orfe (LC50s >1,000 mg/l). It inhibits fungal growth and is reported to be bacteriostatic to several microorganisms at levels of 10-100 mg/l. Growth inhibition has also been reported for

## 12 ECOLOGICAL INFORMATION

freshwater algae at levels ranging from 120 mg/l (blue-green algae) to 4,300 mg/l (green algae).

**Chemical Fate Information**

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
This material is readily biodegradable (87% after 28-days) and not bioaccumulable (log Pow -0.43). The 30-min EC50 in activated sludge is 16 mg/l.

2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate
In a 28-day modified Sturm Test, this material was found to undergo 32-59% degradation to CO2. The bioconcentration factor without metabolism was estimated to be 670 and with metabolism 1-40. The log Pow is estimated to be 4.1

Hexylene Glycol
This material is biodegradable (35-76% after 28-days). The log Pow is -0.14

Methyl Ethyl Ketone
This material is readily biodegradable (89% after 20-days). It is practically not bioaccumulable (log Pow 0.29) and is slightly adsorbed in soils and sediments (log Koc 0.71). This material is rapidly degraded by OH radicals in air (half-life 6.9-days) and has an evaporation half-life of 27.1-hours. It is non-toxic to sludge microorganisms at concentrations up to 800 ug/l.

## 13 DISPOSAL CONSIDERATIONS

**Waste Disposal**

Dispose of in accordance with federal, state and local regulations. Dilution followed by incineration is the preferred method. Dilution ration of 10:1 in a clean, compatible, combustible solvent (i.e., Fuel Oil #2, mineral oil) will reduce reactivity hazard during incineration and transportation.

## 14 TRANSPORT INFORMATION

| | |
|---|---|
| DOT Name | Organic Peroxide Type D, Liquid |
| DOT Technical Name | [Methyl Ethyl Ketone Peroxide(s), <=45%] |
| DOT Hazard Class | 5.2 |
| UN Number | UN 3105 |
| DOT Packing Group | PG II |
| RQ | Methyl Ethyl Ketone Peroxide(s) = 10 lbs. |

## 15 REGULATORY INFORMATION

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)**

| | | | |
|---|---|---|---|
| Immediate (Acute) Health | Y | Fire | N |
| Delayed (Chronic) Health | N | Reactive | Y |
| | | Sudden Release of Pressure | N |

The components of this product are either on the TSCA Inventory list or exempt as impurities.

**Ingredient Related Regulatory Information:**

| SARA Reportable Quantities | CERCLA RQ | SARA TPQ |
|---|---|---|
| Hexylene glycol | NE | |
| Hydrogen peroxide | NE | 1000 LBS |
| Methyl ethyl ketone | 5000 LBS | |
| Methyl ethyl ketone peroxide(s) | 10 LBS | |
| 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate | NE | |
| Proprietary ingredient | NE | |

**SARA Title III, Section 302**

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Hydrogen peroxide

**DEA - precursor element**

This product does contain the following chemical(s), as indicated below, currrently on the DEA Final Precursors and Essential Chemicals Listed Components list.

Methyl ethyl ketone

**Massachusetts Right to Know**

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

**New Jersey Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

**Pennsylvania Environmental Hazard**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

**Pennsylvania Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

## 16 OTHER INFORMATION

**Revision Information**

| | | |
|---|---|---|
| Revision Date | 02 JAN 2007 | Revision Number 10 |
| Supercedes Revision Dated | 02-JAN-2007 | |

**Revision Summary**
This product has been moved to the Functional Additives business unit.

**Key**
NE= Not Established NA= Not Applicable (R) = Registered Trademark

**Miscellaneous**
ADDITIONAL INCOMPATIBILITY DATA:

Rust, copper, and brass are not compatible with MEK peroxide. 316 stainless steel, glasss, polyethylene, polytetrafluoroethylene and polypropylen are preferred materials for contact with MEK peroxide. Acetone may react with residual hydrogen peroxide to form insoluble shock-sensitie acetone peroxide crystals.

Bayer

# MATERIAL SAFETY DATA SHEET



TRANSPORTATION EMERGENCY
CALL CHEMTREC:
INTERNATIONAL:

---

## 1. CHEMICAL PRODUCT IDENTIFICATION:

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PRODUCT NAME.....: Lustran ABS 752-1050 Natural
PRODUCT CODE.....: P1517678
CHEMICAL FAMILY.....: Thermoplastic Polymer
CHEMICAL NAME.....: Acrylonitrile/Butadiene/Styrene Terpolymer
SYNONYMS.....: ABS
FORMULA.....: Not applicable--polymeric material

---

## 2. COMPOSITION/INFORMATION ON INGREDIENTS:

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| INGREDIENT NAME /CAS NUMBER | EXPOSURE LIMITS | | CONCENTRATION (%) |
|---|---|---|---|
| ***** HAZARDOUS INGREDIENTS ***** | | | |
| Residual Styrene Monomer 100-42-5 | OSHA: | 100.00 ppm TWA | Below 0.25 % |
| | | 200.00 ppm CEIL | |
| | ACGIH: | 20.00 ppm TWA | |
| | | 40.00 ppm STEL | |

---

## 3. HAZARDS IDENTIFICATION:

---

**********
* EMERGENCY OVERVIEW *
*
* CAUTION! Color: Natural; Form: Pellets; Odor: Slight *
* sweet aromatic; Causes a slipping hazard if spilled; Contact *
* with hot material will cause thermal burns; Toxic *
* gases/fumes are given off during burning or thermal *
* decomposition; Melted product is flammable and produces *

## 3. HAZARDS IDENTIFICATION (Continued)

* intense heat and dense smoke during burning. *

**********

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Inhalation; Eye Contact; Skin Contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE EFFECTS OF EXPOSURE.....: Material is a non-reactive solid. Mechanical irritation (i.e. abrasion) to the eyes may occur due to exposure to fines. Eyes may become red and scratchy and may tear. Several ABS resins have been tested for potential to produce allergic skin reaction in controlled skin contact studies with human volunteers. A potential for cumulative irritation was demonstrated but primary irritation and allergic skin reactions were not observed. Gases and fumes evolved from this material may irritate the eyes, skin or respiratory tract. At processing temperatures small amounts of styrene, ethylbenzene and acrylonitrile may be emitted. Prolonged and repeated exposure of high concentrations of these vapors and fumes (due to inadequate ventilation, etc.) could cause nausea, drowsiness and headache.

CHRONIC EFFECTS OF EXPOSURE...: In October 1988, the National Institute for Occupational Safety and Health (NIOSH) concluded that "...there seems to be little basis from experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." Additionally, both EPA's Scientific Advisory Board and the Expert Committee of the commission of the European Communities evaluating the same information found insufficient evidence to classify styrene as a carcinogen.

CARCINOGENICITY

- NTP.....: Not listed as a carcinogen
- IARC.....: Styrene (CAS# 100-42-5); Classified as IARC Possible Human Carcinogen (Group 2B) - "The chemical or group of chemicals is possibly carcinogenic for humans."
- OSHA.....: Not listed as a carcinogen

MEDICAL CONDITIONS

- AGGRAVATED BY EXPOSURE.....: Preexisting eye, skin or respiratory tract sensitivities.

EXPOSURE LIMITS.....: For product fines the OSHA-PEL for nuisance dust of 15 mg/m3 total dust, 5 mg/m3 respirable dust is recommended. In addition, the ACGIH-TLV for Particulates Not Otherwise Classified (PNOC) of 10 mg/m3 is recommended. Observe a more stringent limit for product fines if applicable. See Section 2. For product gases and fumes refer to the exposure limits listed in Section 2.

---

4. FIRST AID MEASURES:

---

FIRST AID FOR EYES.....: Flush eyes with plenty of lukewarm water. See physician if irritation persists.
FIRST AID FOR SKIN.....: Wash affected areas with soap and water. See physician if thermal burn occurs.
FIRST AID FOR INHALATION: Remove to fresh air. If breathing is difficult, get medical attention.
FIRST AID FOR INGESTION.: Contact a physician.

---

5. FIRE FIGHTING MEASURES:

---

FLASH POINT.....: 730-752F (388-400C)
FLAMMABLE LIMITS:
  UPPER EXPLOSIVE LIMIT (UEL)(%): Not applicable
  LOWER EXPLOSIVE LIMIT (LEL)(%): Not applicable
AUTO-IGNITION TEMPERATURE.....: 923-950F (495-510C)
EXTINGUISHING MEDIA.....: Water; Dry Chemical; Carbon Dioxide; Foam
SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus should be worn by firefighters. During a fire irritating and toxic gases and aerosols may be generated by thermal decomposition and combustion. See Section 10.
UNUSUAL FIRE / EXPLOSION HAZARDS: Dust from flaked material or secondary operations (regrinding, etc.) may form explosive mixtures in air. Vent storage bins, conveyors, dust collectors, etc. See Section 7.

---

6. ACCIDENTAL RELEASE MEASURES:

---

SPILL OR LEAK PROCEDURES.....: Remove mechanically by method which minimizes generation of airborne dust.

---

7. HANDLING and STORAGE:

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STORAGE TEMPERATURE(MIN/MAX): Max 180F (82C)
SHELF LIFE.....: Not Established
SPECIAL SENSITIVITY.....: Moisture

7. HANDLING and STORAGE (Continued)

HANDLING/STORAGE PRECAUTIONS: When handling flaked material or during secondary operations, vent storage bins, conveyors, dust collectors, etc. Ground handling equipment. Keep open flames, sparks and heat away from dusty areas. Maintain highest standards of housekeeping to prevent accumulation of dust.

OTHER NOTES.....: Material should be stored in a clean, dry environment in sealed containers. Material must be dried before processing.

---

8. PERSONAL PROTECTION:

---

EYE PROTECTION REQUIREMENTS.....: Safety glasses recommended.

SKIN PROTECTION REQUIREMENTS.....: None required, but fabric gloves are recommended when handling molten material.

VENTILATION REQUIREMENTS.....: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits. See Section 2. Local mechanical exhaust ventilation should be used at sources of air contamination, such as open process equipment, or during purging operations, to capture gases and fumes that may be emitted. Standard reference sources regarding industrial ventilation (i.e. ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

RESPIRATOR REQUIREMENTS.....: NIOSH/MSHA approved dust respirator recommended if the airborne dust concentration is near or exceeds the nuisance dust exposure limits. If ventilation is not sufficient to control processing gases and fumes, A NIOSH approved respirator should be selected and worn based on contamination levels found in the workplace.

ADDITIONAL PROTECTIVE MEASURES.....: The greatest potential for injury occurs when working with molten polymeric resins such as during a purge of a molding machine, extruder and the like. During this type of operation it is essential that all workers in the immediate area wear eye protection and skin protection (sleeves, gloves, etc.) as protection from thermal burns. Purgings should be collected as small flat thin shapes or thin strands to allow for rapid cooling. Precautions should be taken against auto-ignition of hot, thick masses of the plastic. Quench with water. Grinder dust is an exposure hazard.

Fumes or vapors emitted from the hot melted plastic during converting operations may condense on cool overhead metal surfaces or exhaust duct. That condensate, usually in the form of a soft grease-like, semi solid, may contain substances which can be irritating or toxic. Avoid contact of that material with the skin. Wear rubber or other impermeable protective gloves when cleaning contaminated surfaces.

---

9. PHYSICAL and CHEMICAL PROPERTIES:

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PHYSICAL FORM.....: Pellets
COLOR.....: Natural
ODOR.....: Slight sweet aromatic
ODOR THRESHOLD.....: Not Established
pH.....: Not Applicable
BOILING POINT.....: Not Applicable
MELTING/FREEZING POINT....: See Softening Point
SOFTENING POINT.....: 180-225F (82-107C)
SOLUBILITY IN WATER.....: Insoluble
SOLUBILITY (NON AQUEOUS)..: Acetone, Methyl Ethyl Ketone (MEK), and
Dimethylformamide (DMF)
SPECIFIC GRAVITY.....: Approx. 1.05
BULK DENSITY.....: Approx. 300-450 kg/m3
% VOLATILE BY WEIGHT.....: Negligible
EVAPORATION RATE.....: Negligible (Butyl acetate = 1)
VAPOR PRESSURE.....: Negligible
VAPOR DENSITY.....: Negligible (Air = 1)

---

10. STABILITY and REACTIVITY:

---

STABILITY.....: This is a stable material
HAZARDOUS POLYMERIZATION...: Will not occur.
INCOMPATIBILITIES.....: None known.
INSTABILITY CONDITIONS.....: None known.
DECOMPOSITION TEMPERATURE..: Begins at approx. 500F (260C)
DECOMPOSITION PRODUCTS.....: By fire or thermal decomposition: carbon dioxide, water, carbon monoxide, hydrocarbons, hydrogen cyanide, and some original monomers such as styrene and acrylonitrile.

---

11. TOXICOLOGICAL INFORMATION:

---

TOXICITY DATA FOR: Similar ABS resins
ACUTE TOXICITY
EYE EFFECTS.....: Non-irritating to slightly irritating (rabbit)
SKIN EFFECTS.....: Non-irritating to slightly irritating (rabbit)
OTHER ACUTE EFFECTS: Practically non-toxic orally (rat) or after skin application (rabbit)

TOXICITY DATA FOR: Styrene
ACUTE TOXICITY
OTHER ACUTE EFFECTS: Slightly toxic to practically nontoxic in oral feeding

## 11. TOXICOLOGICAL INFORMATION (Continued)

studies (rats) and skin application studies (rabbits).
SUBCHRONIC TOXICITY...: Repeated inhalation studies in rats for 3 weeks reported effects suggestive of a hearing impairment.
CHRONIC TOXICITY......: Repeated inhalation exposures produced lung irritation in guinea pigs and organ weight changes in rats.
CARCINOGENICITY.......: An oral study in mice reported slight increases in lung tumors and lymphomas, but the National Cancer institute reported no convincing evidence for carcinogenicity in repeated oral studies with rats and mice.
MUTAGENICITY..........: In standard tests for genetic effects, both positive and negative genetic changes were reported.
DEVELOPMENTAL TOXICITY: No birth defects occurred in rats given styrene orally; some toxic effects on the fetus were noted in a limited inhalation study using repeated, extremely high doses.

## 12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

## 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.......: Material may be incinerated or landfilled in compliance with federal, state, and local environmental control regulations.

## 14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME........: Acrylonitrile/Butadiene/Styrene Terpolymer
FREIGHT CLASS BULK.............: Plastic Materials
FREIGHT CLASS PACKAGE..........: Plastic Materials, NOI
PRODUCT LABEL..................: Label established

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION ......: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

14. TRANSPORTATION INFORMATION (Continued)

IMO / IMDG CODE (continued)

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
CERCLA REPORTABLE QUANTITY..: None reported
SARA TITLE III:
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES:
None
SECTION 311/312
HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard
SECTION 313 TOXIC CHEMICALS:
Styrene (CAS# 100-42-5) Less than 0.25%.
RCRA STATUS.....: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

CHEMICAL INVENTORY LIST(S)

UNITED STATES TSCA STATUS...: On TSCA Inventory

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

| COMPONENT NAME /CAS NUMBER | CONCENTRATION | STATE CODE |
|---|---|---|
| Acrylonitrile/Butadiene/Styrene Terpolymer | | |
| 9003-56-9 | >1.0% | NJ4, PA3 |
| Styrene/Acrylonitrile Copolymer | | |
| 9003-54-7 | >1.0% | NJ4, PA3 |
| Residual Styrene Monomer | | |
| 100-42-5 | Below 0.25 % | MA1, NJ3 |
| Residual Acrylonitrile Monomer | | |
| 107-13-1 | Below 0.01 % | CA1, MA1 |

CA1 = This chemical is known to the state of California to cause cancer.
MA1 = Massachusetts Hazardous Substance List

15. REGULATORY INFORMATION (Continued)

NJ3 = New Jersey Special Health Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
PA3 = Pennsylvania Non-hazardous present at 3% or greater.

16. OTHER INFORMATION:

HMIS RATINGS:

| Health | Flammability | Reactivity |
|---|---|---|
| 1 | 0 | 0 |

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS ratings are provided by Bayer as a customer service.

REASON FOR ISSUE.....: New code
PREPARED BY.....:
APPROVED BY.....:
APPROVAL DATE.....: 09/14/1999
SUPERSEDES DATE.....: None
MSDS NUMBER.....: 37758

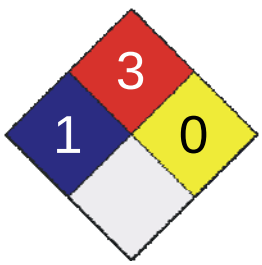
# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Product Name** | **LYSOL® Brand III Disinfectant Spray (all sizes, all scents)** |
| **CAS #** | Mixture |
| **Product Use** | Disinfectant |
| **Distributed by** | Reckitt Benckiser (Canada) Inc.<br>1680 Tech Avenue Unit #2<br>Mississauga, ON L4W 5S9<br>In Case of Emergency: 1-800-338-6167<br>Transportation Emergencies: 24 Hour Number:<br>North America: CHEMTREC: 1-800-424-9300<br>Outside North America: 1-703-527-3887 |

| LEGEND HMIS/NFPA | |
|---|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | | |
|---|---|---|
| Health | * | 1 |
| Flammability | | 3 |
| Physical Hazard | | 0 |
| Personal Protection | | B |




## 2. Hazards Identification

**Emergency Overview**

This product is regulated by Health Canada as a disinfectant. Extensive testing has been completed to show that it is safe and effective when used as directed.
DANGER
EXTREMELY FLAMMABLE. CONTAINER MAY EXPLODE IF HEATED.
PRECAUTIONS: CONTENTS UNDER PRESSURE. DO NOT use in presence of open flame or spark. DO NOT puncture or incinerate container or store at temperatures over 50°C. DO NOT use on polished wood furniture, rayon fabrics, or acrylic plastics. Avoid contact with eyes and food.
Keep out of reach of children.

**Potential short term health effects**

| | |
|---|---|
| **Routes of exposure** | Eye, Skin contact, Inhalation, Ingestion. |
| **Eyes** | Causes moderate eye irritation. |
| **Skin** | Moderately irritating to the skin. |
| **Inhalation** | None expected during normal conditions of use.<br>However intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. |
| **Ingestion** | Contains denatured ethyl alcohol. May be harmful if swallowed. |
| **Target organs** | Blood. Liver. Respiratory system. Central nervous system. Heart. |
| **Chronic effects** | Prolonged or repeated exposure can cause drying, defatting and dermatitis. |
| **Signs and symptoms** | Symptoms may include redness, oedema, drying, defatting and cracking of the skin.<br>Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |
| **Potential environmental effects** | Components of this product have been identified as having potential environmental concerns. |

## 3. Composition/Information on Ingredients

| Ingredient(s) | CAS # | Percent |
|---|---|---|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not Applicable | 0 - 0.1 |
| Propane | 74-98-6 | 1 - 5 |
| Butane | 106-97-8 | 3 - 7 |
| Ethanol | 64-17-5 | 40 - 70 |

## 4. First Aid Measures

**First aid procedures**

| | |
|---|---|
| **Eye contact** | Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician if irritation persists. |
| **Skin contact** | Wash off immediately with soap and plenty of water for at least 15 minutes. All contaminated clothes and shoes are to be removed and washed before reuse. If symptoms persist, call a physician. |
| **Inhalation** | Move exposed person to fresh air. Get medical attention immediately. |
| **Ingestion** | If swallowed, call physician or Poison Control Centre immediately. |
| **Notes to physician** | Contains denatured ethanol; ingestion may result in ethanol poisoning.<br>Symptoms may be delayed.<br>Treat patient symptomatically. |
| **General advice** | Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.<br><br>NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit www.inhalant.org. |

## 5. Fire-fighting Measures

| | |
|---|---|
| **Flammable properties** | Flammable aerosol by flame projection test.<br>Aerosol flame extension less than 18 inches (45 cm).<br>Containers may explode when heated.<br><br>NFPA AEROSOL LEVEL: Flammability Rating 1, per NFPA 30B |
| **Extinguishing media** | |
| **Suitable extinguishing media** | Water spray. Dry chemical. Carbon dioxide. |
| **Unsuitable extinguishing media** | Not available |
| **Protection of firefighters** | |
| **Specific hazards arising from the chemical** | Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out. |
| **Protective equipment for firefighers** | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| **Hazardous combustion products** | May include and are not limited to: Oxides of carbon. |
| **Explosion data** | |
| **Sensitivity to mechanical impact** | Not available |
| **Sensitivity to static discharge** | Not available. |

## 6. Accidental Release Measures

| | |
|---|---|
| **Personal precautions** | Keep unnecessary personnel away.<br>Do not touch or walk through spilled material.<br>Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.<br>Keep people away from and upwind of spill/leak. |
| **Environmental precautions** | Prevent further leakage or spillage if safe to do so. Do not contaminate water. |
| **Methods for containment** | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. |
| **Methods for cleaning up** | Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite. |

## 7. Handling and Storage

**Handling**

Ensure adequate ventilation.
Wear appropriate personal protective equipment when handling this product.
Wash hands after handling and before eating.
Avoid contact with eyes, skin and clothing.
Do not ingest.
Avoid breathing vapours or mists of this product.
CONTENTS UNDER PRESSURE. DO NOT use in presence of open flame or spark. DO NOT puncture or incinerate container or store at temperatures over 50°C. DO NOT use on polished wood furniture, rayon fabrics, or acrylic plastics. Avoid contact with eyes and food. EXTREMELY FLAMMABLE
Contents under pressure.
Do not puncture or incinerate container.

**Storage**

Store in original container in areas inaccessible to small children.
STORE IN A COOL PLACE AND AWAY FROM DIRECT SUNLIGHT.
Keep away from heat, open flames or other sources of ignition.
Do not reuse container.
Do not puncture or incinerate container.

NOTE TO PARENTS: Intentional misuse by deliberately concentrating and inhaling aerosol products may be harmful or fatal. Help stop inhalation abuse; for information visit www.inhalant.org.

## 8. Exposure Controls / Personal Protection

**Exposure limit values**

| Ingredient(s) | Exposure limit values |
|---|---|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | **ACGIH-TLV**<br>Not established |
| Butane | **ACGIH-TLV**<br>TWA: 1000 ppm |
| Ethanol | **ACGIH-TLV**<br>TWA: 1000 ppm<br>STEL: 1000 ppm |
| Propane | **ACGIH-TLV**<br>TWA: 1000 ppm |

**Engineering controls**

Provide adequate ventilation.

**Personal protective equipment**

**Eye/Face protection**

Avoid contact with eyes. Tightly fitting safety goggles.
Emergency responders should wear full eye and face protection.

**Hand protection**

Not normally required when used as directed. Avoid contact with the skin.
Emergency responders should wear impermeable gloves.

**Skin and body protection**

As required by employer code.

**Respiratory protection**

Not normally required if good ventilation is maintained.
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2). Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

## 9. Physical and Chemical Properties

**Appearance** Misty spray

**Colour** Clear

| | |
|---|---|
| **Form** | Aerosol. |
| **Odour** | Characteristic |
| **Odour threshold** | Not available |
| **Physical state** | Gas |
| **pH** | 10.8 - 11.8 |
| **Freezing point** | Not available |
| **Boiling point** | Not available |
| **Pour point** | Not available |
| **Evaporation Rate** | Not available |
| **Flash point** | 25.6 °C (78.08 °F) |
| **Auto-ignition temperature** | Not available |
| **Flammability limits in air, lower, % by volume** | Not available |
| **Flammability Limits in Air, Upper, % by Volume** | Not available |
| **Vapour pressure** | Not available |
| **Vapour density** | Not available |
| **Specific gravity** | 0.882 @ 25°C (Concentrate) |
| **Octanol/water coefficient** | Not available |
| **Solubility (H2O)** | Complete |
| **VOC (Weight %)** | Not available |
| **Viscosity** | Not available |
| **Percent volatile** | Not available |

## 10. Stability and Reactivity

| | |
|---|---|
| **Reactivity** | This product may react with strong oxidizing agents. |
| **Possibility of hazardous reactions** | Hazardous polymerisation does not occur. |
| **Chemical stability** | Stable under recommended storage conditions. |
| **Conditions to avoid** | Heat, open flames, static discharge, sparks and other ignition sources.<br>Aerosol containers are unstable at temperatures above 49°C (120.2°F).<br>Do not freeze<br>Exposure to moisture. |
| **Incompatible materials** | Oxidizers. |
| **Hazardous decomposition products** | May include and are not limited to: Oxides of carbon. |

## 11. Toxicological Information

**Component analysis - LC50**

| Ingredient(s) | LC50 |
|---|---|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not available |
| Butane | Not available |
| Ethanol | 31623 ppm rat |
| Propane | Not available |

**Component analysis - Oral LD50**

| Ingredient(s) | LD50 |
|---|---|
| Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium saccharinate | Not available |
| Butane | Not available |
| Ethanol | 3450 mg/kg mouse; 7060 mg/kg rat |
| Propane | Not available |

**Effects of acute exposure**

| | |
|---|---|
| **Eye** | Causes moderate eye irritation. |
| **Skin** | Moderately irritating to the skin. |

| | |
|---|---|
| **Inhalation** | None expected during normal conditions of use.<br>However intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. |
| **Ingestion** | Contains denatured ethyl alcohol. May be harmful if swallowed. |
| **Sensitisation** | The finished product is not expected to have chronic health effects. |
| **Chronic effects** | The finished product is not expected to have chronic health effects. |
| **Carcinogenicity** | The finished product is not expected to have chronic health effects. |

**ACGIH - Threshold Limit Values - Carcinogens**

| | | |
|---|---|---|
| Ethanol | 64-17-5 | A3 - Confirmed animal carcinogen with unknown relevance to humans. |

| | |
|---|---|
| **Mutagenicity** | The finished product is not expected to have chronic health effects. |
| **Reproductive effects** | The finished product is not expected to have chronic health effects. |
| **Teratogenicity** | The finished product is not expected to have chronic health effects. |
| **Name of Toxicologically Synergistic Products** | Not available |

## 12. Ecological Information

| | |
|---|---|
| **Ecotoxicity** | Components of this product have been identified as having potential environmental concerns. |

**Ecotoxicity - Freshwater Fish - Acute Toxicity Data**

| | | |
|---|---|---|
| Ethanol | 64-17-5 | 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through] |

**Ecotoxicity - Water Flea - Acute Toxicity Data**

| | | |
|---|---|---|
| Ethanol | 64-17-5 | 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static] |

| | |
|---|---|
| **Persistence and degradability** | Not available |
| **Bioaccumulation/accumulation** | Not available |
| **Mobility in environmental media** | Not available |
| **Environmental effects** | Not available |
| **Aquatic toxicity** | Not available |
| **Partition coefficient** | Not available |
| **Chemical fate information** | Not available |
| **Other adverse effects** | Not available |

## 13. Disposal Considerations

| | |
|---|---|
| **Disposal instructions** | Dispose in accordance with all applicable regulations.<br>This container may be recycled in communities where aerosol can recycling is available. Before offering for recycling, empty the can by using product according to the label (DO NOT PUNCTURE OR INCINERATE). If recycling is not available, contact your municipality or provincial Ministry of Environment for disposal information. |
| **Waste from residues / unused products** | Not available |
| **Contaminated packaging** | Not available |

## 14. Transport Information

**U.S. Department of Transportation (DOT)**

UN1950, Aerosols, flammable, Class 2.1 Re-Classed as Limited Quantity

**Transportation of Dangerous Goods (TDG - Canada)**

UN1950, Aerosols, flammable, Class 2.1 Re-Classed as Limited Quantity

**IMDG (Marine Transport)**

UN 1950, Aerosols, flammable, Class 2.1

**IATA/ICAO (Air)**

UN 1950, Aerosols, Flammable, Limited Quantity or Consumer Commodity, ID 8000 if acceptable to airline.

## 15. Regulatory Information

**Canadian federal regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Product Registration: Registered with TPD, DIN 02279177

**Canada - CEPA - High Priority Chemicals as Identified by DSL Categorization**

| | | |
|---|---|---|
| Butane | 106-97-8 | Batch 4, published November 17, 2007 |

**Canada - WHMIS - Ingredient Disclosure List**

| | | |
|---|---|---|
| Butane | 106-97-8 | 1 % |
| Ethanol | 64-17-5 | 0.1 % |

**WHMIS classification**

Exempt - Registered product - (DIN 02279177)

**Inventory Status**

| Country(s) or region | Inventory Name | On Inventory (Yes/No)* |
|---|---|---|
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

## 16. Other Information

**Disclaimer**

This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Further information**

LYSOL® Brand III Disinfectant Spray - Crisp Linen - 6 oz, 12.5 oz, 19 oz, 350g - 0242193 v 1.0

LYSOL® Brand III Disinfectant Spray - "To Go" Crisp Linen - 1 oz, 28 g - 0242193 v 1.0

LYSOL® Brand III Disinfectant Spray - Spring Waterfall - 12.5 oz, 19 oz, 350g - 0258756 v 1.0

LYSOL® Brand III Disinfectant Spray - Crisp Berry - 12.5 oz, 19 oz, 350g - 0175938 v 1.0

LYSOL® Brand III Disinfectant Spray - Green Apple - 350g - 0175934 v 1.0

LYSOL® Brand III Disinfectant Spray - Country - 350g - 0175919 v 1.0

LYSOL® Brand III Disinfectant Spray - Country Morning Breeze - 350g - 0175929 v 1.0

**Issue date** 17-May-2012

**Effective Date** 01-Mar-2012

**Expiry Date** 01-Mar-2015

**Prepared by** Reckitt Benckiser Regulatory Department 800-333-3899

**Other Information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

# Reiff and Nestor Co. - Safety Data Sheet

## SECTION 1- IDENTIFICATION

**Product Name:** High Speed Steel Cutting Tools **Date Prepared:** November 2014
**Product Description:** M1, M2, M4, H.S.S. Taps for cutting threads in holes
**Manufacturer:** Reiff & Nestor Co., 50 Reiff St. Lykens, Pa 17023
**Emergency Telephone: 1-800-521-3422**
**NFPA Hazard Rating:** HEALTH 1; FLAMMABILITY 0; REACTIVITY 0 (0=Max Safety, 5=Extreme Hazard)

## SECTION 2 – HAZARDS IDENTIFICATION

**Health Hazards:** This product is in the form of a metallic solid, as sold is not considered a physical or heath hazard. Subsequent operations as grinding, brazing, welding, melting, or cutting may produce potentially hazardous dust or fumes which may be inhaled, swallowed, or come in contact with skin or eyes. This may or may not result in long term (chronic) exposure adverse effects.

**Inhalation:** Irritant

*Acute Overexposure:* Excessive inhalation may result in irritation of eyes, nose, and throat. May also lead to metal fume fever. Typical symptoms consist of metallic taste in the mouth, chills, fever, and nausea. Metal fume fever begins 4 to 12 hours after exposure and may last 24 hours without causing permanent damage.
*Chronic Overexposure:* May cause respiratory irritation, bronchitis, allergic respiratory reaction, obstructed airways, build-up of dust in the lungs, damage to lung tissue, and lung disease. Along with symptoms as described in acute overexposure, especially inflammation of the respiratory tract, nose and throat irritation, violent coughing, wheezing, rasping, and shortness of breath. Their may also be blood changes, liver and kidney damage, and increased susceptibility to respiratory changes.

**Eye contact:** Irritant

*Acute Overexposure:* May cause irritation with redness, pain, and itching.
*Chronic Overexposure:* May cause Conjunctivitis.

**Skin contact:** Irritant

*Acute Overexposure:* May cause irritation.
*Chronic Overexposure:* May cause inflammation and/or rash (irritant or allergic contact dermatitis).

**Ingestion:** Irritant

*Acute Overexposure:* Ingestion of large amounts of steel dust is highly unlikely. However, ingestion of small amounts may occur by eating with contaminated hands leading to irritation.
*Chronic Overexposure:* May produce the same symptoms as acute overexposure. May also adversely affect the pancreas, thyroid gland, heart, and bone marrow.

## SECTION 3-COMPOSITION/INFORMATION ON INGREDIENTS

| Alloy Elements | CAS Number | % by weight | OSHA PEL(mg/m3) | ACGIH TVL(mg/m3) |
|---|---|---|---|---|
| Carbon (C) | 7440-44-0 | 0.78 – 1.40 | .35 as Carbon Black | .35 as Carbon Black |
| Chromium (Cr)* | 7440-47-3 | 3.50 – 4.5 | 1.0 as Chrome | 0.5 as Chrome |
| Copper (Cu) | 7440-50-8 | 0.75 max. | 0.1 as fume<br>1.0 as dust | 0.2 as fume<br>1.0 as dust |
| Iron (Fe) | 1309-37-1 | Balance | 10 as Iron Oxide | 5.0 as Iron Oxide |
| Manganese (Mn)* | 7439-96-5 | 0.15 – 0.40 | 5.0 as dust (ceiling limit) | 0.2 as dust |

| | | | | |
|---|---|---|---|---|
| | | | 1.0 as fume<br>3.0 as fume (STEL) | 1.0 as fume<br>3.0 as fume (STEL) |

| Alloy Elements | CAS Number | % by weight | OSHA PEL (mg/m3) | ACGIH TLV (mg/m3) |
|---|---|---|---|---|
| Molybdenum (Mo) | 7439-98-7 | 4.25 – 9.20 | 15 as Mo and insoluble compounds<br>5.0 as Mo and soluble compounds | 10 as Mo and insoluble compounds<br>5.0 as Mo and soluble compounds |
| Nickel (Ni)* | 7440-02-0 | 0.75 max. | 1.0 as Nickel | 1.0 as metal and insoluble compounds<br>0.1 as soluble compounds |
| Phosphorous (P) | 7723-14-0 | 0.030 max. | 0.1 as Phosphorous | 0.1 as Phosphorous |
| Silicon (Si) | 7440-21-3 | 0.20 – 0.50 | None Listed | 10 as total dust |
| Sulfur (S) | 7704-34-9 | 0.030 max. | 15 as dust (total)<br>5.0 (respirable) | 10 as total dust<br>5.0 as respirable dust |
| Tungsten (W) | 7440-33-7 | 1.40 – 6.75 | None Listed | 5.0 insoluble compound<br>10 insoluble comp. (STEL)<br>1.0 soluble compound<br>3.0 soluble comp.(STEL) |
| Vanadium (V)* | 7440-62-2 | 1.00 – 4.50 | 0.5 respirable dust as $V_2O_5$<br>0.1 fume as $V_2O_5$ | None Listed |

Note: The above listing is a summary of elements used in alloying high speed steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

*These substances are regulated as toxic chemicals under Section 313, SARA Title III and 40 CFR 372.

## SECTION 4 – FIRST AID MEASURES

**Inhalation:** If symptoms of pulmonary involvement develop (coughing, wheezing, shortness of breath, etc.) remove from exposure area to fresh air immediately. If symptoms persist seek medical attention.

**Eye Contact:** Wash/flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention immediately.

**Skin Contact:** If irritation or rash occurs, remove contaminated clothing immediately. Wash affected area with soap and water. If irritation or rash persists, seek medical attention immediately.

**Ingestion:** If large quantities are swallowed seek medical attention.

## SECTION 5 – FIRE FIGHTING MEASURES

**Flash Point:** None

**Flammable Limits:** Not Applicable

**Fire and Explosion Hazards:** None in solid state. However tool steel dust generated in grinding may be sensitive

to static discharge or ignite if allowed to accumulate and exposed to a source of ignition.

**Extinguishing Media:** In solid finished form it will not burn. Use water to cool. For dust fires, smother with dry sand, ABC type fire extinguisher, or flood with water.

**Special Firefighting Procedures:** For a dust fire use a respirator approved for toxic dust and fumes. For larger fires, firefighters should use a self-contained breathing apparatus. Do not release run off from fire control methods into waterways, fire may produce toxic thermal decomposition products.

## SECTION 6 – ACCIDENTIAL RELEASE MEASURES

**Steps to be taken in case material is released or spilled:** Clean up area using methods to avoid dust generation such as (HEPA) vacuum, wet dust mop, or wet clean-up. Use an appropriate National Institute of Occupational Safety and Health (NIOSH) approved respirator whenever airborne concentrations of hazardous components exceed exposure limits listed in Section 3.

## SECTION 7 – HANDLING AND STORAGE

**Handling Precautions:** Under normal operating conditions, the use of high speed steel tool products do not require special safety precautions beyond normal safety procedures for handling and using cutting tools. However, operations such as grinding, cutting, and welding of high speed steel tool products may generate dust and fumes resulting in hazardous exposure to the elements in the alloy. Protect against dust and fume inhalation and skin or eye contact. Use proper exhaust ventilation. Wash hands thoroughly after handling, along with washing exposed skin at the end of a work shift. Do not use compressed air to remove dusts. Dust should be removed by laundering or vacuuming the clothing, rags, or other items. Maintain good house cleaning procedures to prevent dust accumulation.

**Storage requirements:** Store in a manner that prevents accidental environmental contamination from traces of industrial lubricants or wetting oils. Store avoiding rapid change of temperature and high humidity.

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye Protection:** Always wear safety glasses with side shields when grinding or cutting high speed steel tool products. An eye wash station should be provided within the immediate work area for emergency use.

**Gloves:** The appropriate protective gloves or barrier creams are recommended to prevent skin contact with dusts.

**Clothing:** The appropriate protective clothing and equipment must be worn to prevent repeated or prolonged skin contact.

**Ventilation:** Provide local or general exhaust ventilation to ensure that concentrations of dusts or fumes do not exceed exposure limits.

**Respirator Protection:** Use a NIOSH- approved respirator, with the proper assigned protection factor, whenever airborne concentrations of hazardous components exceed exposure limits listed in Section 3.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor:** Metal cutting tools with various geometries, a solid odorless metal.

**Boiling Point:** 5,000°F (2760°C) **Specific Gravity:** 7.8 – 8.2 (60°F)

**Melting Point:** 2,500°F (1371°C)

**Vapor Pressure (mm Hg):** Not Applicable

**Evaporation Rate:** Not Applicable

**Vapor Density (air=1):** Not Applicable

**Solubility in Water:** Insoluble

**Volatile Organic Compounds (N.O.C.):** Not Applicable

## SECTION 10 – STABILITY AND REACTIVITY

**Stability:** Chemically Stable

**Incompatibility:** Reacts with strong acid to generate hydrogen gas

**Hazardous Polymerization:** Will not occur

**Hazardous Decomposition or Byproducts:** Metallic oxides

**Conditions To Avoid:** Elevated temperatures may liberate metallic oxides or fumes. Avoid exposure to generated dusts and/or fumes.

## SECTION 11 – TOXICOLOGICAL INFORMATION

**Chromium:** There is evidence of increased cases of lung cancer among chromium alloy workers. However, according to The International Agency for Research on Cancer (IARC) the chromium compounds responsible cannot be specified.

**Molybdenum:** Molybdenum is an eye and mucous membrane irritant. Individuals with a history of kidney, chronic respiratory, or liver disease may be at increased risk from exposure.

Rat Intraperitoneal $LD_{Lo}$: 114 mg/kg

Rabbit Intratracheal $LD_{Lo}$: 70 mg/kg

**Nickel:** IARC lists metallic nickel and nickel compounds as Category 2B carcinogens (Possibly Carcinogenic to Humans). Epidemiological studies indicate increased incidence of cancer of the nasal cavity, lungs, and possibly the larynx in nickel refinery workers. Nickel is an eye, skin, and mucous membrane irritant also a pulmonary and skin sensitizer.

Rat Oral $LD_{Lo}$: 5 mg/kg

Guinea Pig Subcutaneous $LD_{Lo}$: 500 mg/kg

Mouse Intravenous $LD_{Lo}$: 50 mg/kg

Dod Intravenous $LD_{Lo}$: 10 mg/kg

Rat Intratrachael $LD_{Lo}$: 12 mg/kg

## SECTION 12 – ECOLOGICAL INFORMATION

There is no data available, solids and dust should be recycled if possible.

## SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with the appropriate government regulations. If possible disposal of this material should be done at an appropriate reclamation facility.

## SECTION 14 – TRANSPORTATION INFORMATION

**DOT Hazard Classification:** Not Applicable

**Placard Required:** Not Applicable

**Label Required:** Not Applicable

## SECTION 15 – REGULATORY INFORMATION

**OSHA:** This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. Dust generated while using this product may be hazardous as noted in Sections 2 and 3.

**SARA Title III Requirements:** The product description or trade name (High Speed Steel) contains toxic chemicals subject to the reporting requirements under Section 313 of Title III, the Superfund Amendments and Reauthorization Act of 1986 and 40CFR Part 372. Toxic chemicals may include chromium, nickel, manganese, cobalt, copper, vanadium, or titanium (refer to Section III of the SDS for specific hazardous ingredients).

## SECTION 16 – OTHER INFORMATION

This material is potentially contaminated with coatings such as oils for preservation, and other contaminants. If the material is contaminated, special precautions, such as process control and personal protective equipment appropriate to the nature of the suspected contaminants should be taken to avoid resulting exposures when handling, cutting (thermal or mechanical) and/or heating or melting. It is the user's responsibility to identify and protect against health and safety hazards presented by modification of high speed steel tool products after manufacture.

**Disclaimer:** The information contained in this Safety Date Sheet (SDS) is believed to be correct, but no representations, guarantees, or warranties of any kind are made as to its accuracy, suitability for particular applications, hazards connected with the use of the material or the results to be obtained from the user thereof. The user assumes all risk and liability of any use, processing, or handling of any material. Variations in methods, conditions, equipment used to store, handle or process the materials and hazards connected to the use of material are solely the responsibility of the user and remain at its sole discretion.

As sold, the product described in this SDS is considered by Reiff and Nestor Company to be an "article" within the meaning of Title 29 of the code of federal regulations, Section 1910.1200 et seq. This SDS is intended to be used solely for the purpose of satisfying informational request made pursuant to that requirement. It is not intended to pre-empt, replace, or expand the terms contained in our conditions of sale. Compliance with all applicable Federal, State, and Local laws and regulations remain the responsibility of the user, and the user has the responsibility to provide a safe workplace, to examine all aspects of its operation, and to determine if or where precautions, in addition to those described herein are required.

Prepared by: Reiff and Nestor Co., Engineering Department

adverstisements

GLIDDEN CO -- MA 173, MACCO LN601 LIQUID NAILS -- 8040-01-328-8043

========== Product Identification ==========

Product ID:MA 173, MACCO LN601 LIQUID NAILS
MSDS Date:04/20/1992
FSC:8040
NIIN:01-328-8043
MSDS Number: BPBQY
=== Responsible Party ===
Company Name:GLIDDEN CO
Address:925 EUCLID AVE
City:CLEVELAND
State:OH
ZIP:44115
Country:US
Info Phone Num:216-344-8000
Emergency Phone Num:216-344-8000
CAGE:72818
=== Contractor Identification ===
Company Name:GLIDDEN CO MEMBER OF ICI WORLD PAINTS
Address:925 EUCLID AVE
Box:15049
City:CLEVELAND
State:OH
ZIP:44115
Country:US
Phone:216-344-8000
CAGE:72818

========== Composition/Information on Ingredients ==========

Ingred Name:CARBONIC ACID, CALCIUM SALT; (CALCIUM CARBONATE)
CAS:471-34-1
RTECS #:FF9335000
Fraction by Wt: 1-5%
OSHA PEL:15 MG/M3;5 RESP
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:CLAY (KAOLIN)
CAS:1332-58-7
RTECS #:GF1670500
Fraction by Wt: 30-40%
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:2 MG/M3 TDUST; 9293

Ingred Name:SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC
CAS:64742-89-8
Fraction by Wt: 20-30%
OSHA PEL:180 MG/M3 (MFR)
ACGIH TLV:50 PPM (MFR)

Ingred Name:STODDARD SOLVENT; (MINERAL SPIRITS)
CAS:8052-41-3
RTECS #:WJ8925000
Fraction by Wt: 1-5%
OSHA PEL:500 PPM
ACGIH TLV:100 PPM; 9293

Ingred Name:HEXANE (N-HEXANE)
CAS:110-54-3
RTECS #:MN9275000
Fraction by Wt: 5-10%

OSHA PEL:500 PPM
ACGIH TLV:50 PPM; 9293
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:RESIN ACIDS AND ROSIN ACIDS, ESTERS W/GLYCEROL; (RESIN
GLYCEROL ESTER)
CAS:8050-31-5
Fraction by Wt: 5-10%

Ingred Name:DISTILLATES (PETROLEUM), STEAM CRACKED, POLYMERS W/LIGHT
STEAM-CRACKED PETROLEUM NAPHTHA; (HYDROCARBON RESIN)
CAS:68410-16-2
Fraction by Wt: 1-5%

Ingred Name:STYRENE POLYMER WITH 1,3-BUTADIENE; (BENZENE, ETHENYL-,
POLYMER W/1,3-BUTADIENE (STYRENE-BUTADIENE POLYMER))
CAS:9003-55-8
RTECS #:WL6478000
Fraction by Wt: 5-10%

Ingred Name:SUPP DATA:EMPTY CNTNRS MAY CONTAIN HAZ RESIDUES. DO NOT
TAKE INTERNALLY. USE ONLY W/ADEQ VENT.
RTECS #:9999999ZZ

Ingred Name:SPILL PROC:SHUT OFF LEAK IF SAFE TO DO SO. DIKE & CNTN
SPILL. PUMP TO STORAGE/SALVAGE VESSELS. USE ABSORBENT TO (ING 11)
RTECS #:9999999ZZ

Ingred Name:ING 10:PICK UP EXCESS RESIDUE. KEEP SALVAGEABLE MATERIAL &
RINSE WATER OUT OF SEWERS & WATER COURSES.
RTECS #:9999999ZZ

========== Hazards Identification ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:INHAL:IRRIT OF RESP TRACT. PRLNGD
INHAL MAY LEAD TO FATIGUE, DIZZ &/OR LIGHT HEADEDNESS, HEADACHE,
UNCOORDINATION, NAUSEA, CNS DEPRESS, RESP PROBLEMS.
SKIN:IRRITATION. PRLNGD/RPTD CNTCT CAN CAUSE DERM , DEFAT. SKIN
CNTCT MAY RSLT IN DERM ABSORPTION OF COMPONENT(S) OF PROD WHICH MAY
CAUSE VOMIT, DIARR, (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT.
Effects of Overexposure:HLTH HAZ:BLURRED VISION. EYE:IRRITATION.
PRLNGD/RPTD CNTCT CAN CAUSE BLURRED VISION, TEARING, SEVERE
IRRITATION. INGEST:MAY CAUSE LUNG INFLAMM & DMG DUE TO ASPIRATION
OF MATL INTO LUNGS. NOTICE:RPTS H AVE ASSOC RPTD/PRLNGD OCCUP
OVEREXP TO SOLVS W/PERM BRAIN & NERV SYS DMG. INTENTIONAL MISUSE BY
DELIB CONC & (SUPDAT)
Medical Cond Aggravated by Exposure:NOT DETERMINED.

========== First Aid Measures ==========

First Aid:INHAL:MOVE TO FRESH AIR. RESTORE & SUPPORT CONTINUED
BREATHING. GET MD. HAVE TRAINED PERSON GIVE O*2 IF NECESSARY. GET
MD FOR ANY BRTHG DFCLTY. SKIN:FLUSH W/WATER. THEN WASH THORO W/SOAP
& WATER. REMO VE CONTAM CLTHG. WASH CONTAM CLTHG BEFORE REUSE.
EYE:FLUSH IMMED W/LRG AMTS OF WATER FOR AT LEAST 15 MINS,
ESPECIALLY UNDER LIDS. IF IRRIT OR OTHER EFTS PERSIST, GET MD.
INGEST:GET MD IMMEDIATELY.

========== Fire Fighting Measures ==========

Flash Point Method:SCC
Flash Point:4F,-16C
Lower Limits:0.7%
Upper Limits:7%

Extinguishing Media:DRY CHEMICAL OR FOAM.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE EQUIPMENT . WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS.
Unusual Fire/Explosion Hazard:CLSD CNTNR MAY EXPLOD WHEN EXPOSED TO EXTREME HEAT OR FIRE. VAPS MAY INGITE EXPLO AT AMBIENT TEMPS. VAPS ARE HEAVIER THAN AIR & MAY TRAVEL LONG DISTS (SUPDAT)

========== Accidental Release Measures ==========

Spill Release Procedures:COMPLY W/ALL APPLIC HLTH & ENVIRON REGS. ELIMINATE ALL IGNIT SOURCES. VENT AREA W/EXPLO PROOF EQUIP. SPILLS MAY BE COLLECTED W/ABSORB MATLS. USE NON-SPARKING TOOLS. EVAC ALL UNNEC PERS. PLACE COLLECTE D MATL IN PROPER CNTNR. LRG SPILLS:(ING10)
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:STORE BELOW 80F. KEEP AWAY FROM HEAT, SPPARKS AND OPEN FLAME. USE ONLY WITH ADEQUATE VENTILATION. KEEP CNTNR TIGHTLY CLSD & UPRIGHT WHEN NOT IN USE.
Other Precautions:KEEP OUT OF REACH OF CHILDREN. AVOID CNTCT W/SKIN & EYES, & BRTHG OF VAPS. AVOID CNDTNS WHICH RSLT IN FORMATION OF INHALABLE PARTICLES SUCH AS SPRAYING OR ABRADING (SANDING) PAINTED SURFS. IF SUCH CND TNS CANNOT BE AVOIDED, USE (SUPP DATA)

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE STANDARDS. WHERE RESPIRATORY PROTECTION IS REQUIRED, USE ONLY NIOSH/MSHA APPROVED RESPIRATOR IN ACCORDANCE WITH OSHA STANDARDS 29 CFR 1910.134.
Ventilation:PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILDUP OF VAPS. USE EXPLO-PROOF EQUIP. USE NON-SPARKING EQUIP.
Protective Gloves:IMPERVIOUS GLOVES.
Eye Protection:CHEM WORK GOG W/FULL LNGTH FSHLD .
Other Protective Equipment:EYE WASH, SAFETY SHOWER, APRON.
Work Hygienic Practices:WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING.
Supplemental Safety and Health
EXPLO HAZ:TO SOURCE OF IGNIT & FLASH BACK. MAY DECOMPOSE UNDER FIRE CNDTNS EMITTING IRRITANT &/OR TOX GASES. EFTS OF OVEREXP:INHALING CONTENTS MAY BE HARMFUL/FATAL. PRLNGD/RPTD INHAL OF N-HEXANE MAY P RODUCE PERIPHERAL NERVE DAMAGE. POSS REPROD HAZ BASES ON ANIMAL DATA. OTHER PREC:APPROP RESP PROT AS NOTED. (ING 9)

========== Physical/Chemical Properties ==========

HCC:F2
Boiling Pt:B.P. Text:149F,65C
Spec Gravity:1.047
Solubility in Water:NOT DETERMINED
Appearance and Odor:TAN COLORED PASTE.
Percent Volatiles by Volume:56.03

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
OXIDIZERS, ACIDS, BASES, AMINES.
Stability Condition to Avoid:ELEVATED TEMPERATURES, CONTACT WITH OXIDIZING AGENTS.
Hazardous Decomposition Products:CO, CO*2.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE & LOCAL REGULATIONS. AVOID DISCHARGE TO NATURAL WATERS.

MARVEL OIL COMPANY
5655 W. 73rd STREET
CHICAGO, IL 60638
(708) 563-3766

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION

| | |
|---|---|
| PRODUCT NAME: | Marvel Mystery Oil |
| PRODUCT CODE: | MM010,011,012,013,014,015,016,017,018 |
| REVISION #: | # 1 |
| EFFECTIVE DATE: | November 1, 1999 |
| CHEMICAL NAME : | Complex mixture of hydrocarbons |
| FORMULA: | Mixture |
| SYNONYMS: | NA |
| CHEMICAL FAMILY: | Petroleum Distillates |
| CAS #: | NA |
| CAS NAME: | NA |

HMIS:HEALTH: 2 FIRE:2 REACTIVITY: 0 PE: B

HAZARD CLASSIFICATION: Petroleum products, n.o.s, Combustible, PG III, UN 1268

SHIPPING NAME: Petroleum oils and related products

IDENTIFICATION #: NMFC 155250

## 2. HAZARDOUS INGREDIENTS

| MATERIAL | CAS # | TLV(UNITS/SOURCE) | HAZARD |
|---|---|---|---|
| Mineral Spirits | 08052-41-3 | 100 ppm (NIOSH) 8 hr/500 ppm (STEL) 15 min | Eyes, skin ingestion, inhalation, fire. |
| Napthenic Hydro-Carbons | 64742-52-5 | 5 mg/m3 TWA (OSHA) | Eyes, skin, ingestion, inhalation |
| Chlorinated Hydro-Carbons | 00095-50-1 | 25 ppm (ACGIH)(TWA) 50 ppm (ACGIH)(STEL) | Eyes, skin, ingestion, inhalation. |

## 3. PHYSICAL DATA

| | |
|---|---|
| BOILING POINT,760 mm Hg: | 172 ° C |
| SPECIFIC GRAVITY @ 60 F.: | 0.876 |
| VAPOR PRESSURE @ 60 F.: | 5 mm @ 25 ° C |
| VAPOR DENSITY (AIR=1): | ND |
| SOLUBILITY IN WATER, WT % : | Insoluble |
| PERCENT VOLATILE, VOL % : | 25 % |
| EVAPORATION RATE: | ND |
| APPEARANCE AND ODOR: | Clear amber liquid |
| MELTING POINT: | NA |
| pH (1:1 H20): | ND |
| VISCOSITY: | 10 cSt @ 40 ° C |

## 4. HEALTH HAZARD DATA

TLV & SOURCE: Mineral Spirits 100 ppm - 8 hr. (TWA-NIOSH) / 500 ppm - 15 min. (STEL)
Oil mist of 5 mg/M3 or less

ACUTE EFFECTS OF OVEREXPOSURE:

SWALLOWING: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into lungs can cause pneumonitis which can be fatal.

SKIN ABSORPTION: Not known.

INHALATION: Can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even asphyxiation.

SKIN CONTACT: Prolonged or repeated contact can cause moderated irritation, defatting or dermatitis.

EYE CONTACT: Can cause severe irritation, redness, tearing or blurred vision.

CHRONIC EFFECTS OF OVEREXPOSURE:

Not known.

EMERGENCY AND FIRST AID PROCEDURES:

**SWALLOWING:** Do not induce vomiting. Keep person quiet and warm. Get medical attention. Aspiration of material into lungs can cause chemical pneumonitis which can be fatal.

**SKIN:** Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder before re-use.

**INHALATION:** Remove person to fresh air. If breathing difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm and quiet. Call a physician.

**EYES:** Flush with large amounts of water, lifting upper and lower eyelids occasionally. Get medical attention.

**CARCINOGENICITY:** Not known to be carcinogenic.

**NOTES TO PHYSICIAN:** None.

## 5. FIRE & EXPLOSION HAZARD DATA

**FLASH POINT & METHOD:** 142 F (TCC)

**FLAMMABLE LIMITS IN AIR, % BY VOLUME:** 0.9 % LOWER 7.0 % UPPER

**EXTINGUISHING MEDIA:** Carbon dioxide, dry chemical, foam.

**SPECIAL FIRE FIGHTING PROCEDURES:**

Wear self-contained breathing apparatus with full facepiece operated with positive pressure-demand when fighting large fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Vapors heavier than air and may travel along ground to ignition sources distant from fire area.

## 6. REACTIVITY DATA

**STABILITY:** Stable

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong oxidizing agents.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Carbon monoxide, carbon dioxide and hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Strong oxidizing agents.

## 7. SPILL & LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Ventilate area. Remove sources of ignition. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Absorb small amounts on inert material for disposal.

WASTE DISPOSAL METHOD:

Dispose of product in accordance with all local, state and federal laws and regulations.

## 8. PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): If exposure levels exceed those established, use approved air supplied respirator in absence of proper environmental controls.

VENTILATION: Provide sufficient ventilation to avoid exposure levels above established TLV's.

PROTECTIVE GLOVES: Wear chemically resistant gloves.

EYE PROTECTION: Splash goggles.

OTHER PROTECTIVE EQUIPMENT: Wear impervious clothing to avoid contact with product.

## 9. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Empty containers may be dangerous since fumes may still exist. Observe precautions given for this product as stated in this document.

PRECAUTIONS DURING USE: None.

## 10. ADDITIONAL INFORMATION

**REGULATORY INFORMATION:**

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

* Immediate Health
* Delayed Health
* Fire Hazard

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

* None

CAL. PROP 65: This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects:
< 150 ppm p-dichlorobenzene CAS 00106-46-7

WHMIS (Canada): ND

REASON FOR REVISION: New format.

PREPARED BY: Richard P. Kelly

This information is to the best of Marvel Oil Company's knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

NA = Not applicable
ND = Not determined

MSDMM010

PHARMCO-AAPER
THE POWER OF THREE[3]

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA) +1.703.527.3887 (INT)**

# MATERIAL SAFETY DATA SHEET

## Methyl Amyl Alcohol (MAA)

## 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals

**Synonyms:** Isobutyl methyl carbinol; 4-Methyl-2-pentanol; 2-Methyl-4-pentanol; 4-methylpentane-2-ol; 1,3-Dimethylbutanol; Methyl amyl alcohol; Isobutyl methyl methanol

**Other means of identification:** CAS No. 108-11-2
EINECS No. 203-551-7

**Recommended use of the chemical and restrictions on use:**
General use solvent

**Supplier Details:**

**Pharmco Products, Inc.**
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

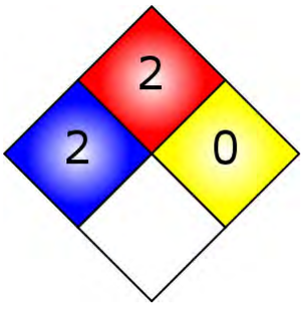
**Pharmco Products, Inc.**
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

**Emergency Contact:** **CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)**

## 2. HAZARDS IDENTIFICATION

**OSHA Hazards:**
Combustible liquid, Irritant

**NFPA**




**GHS label elements, including precautionary statements**

PHARMCO-AAPER
THE POWER OF THREE[3]

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA) +1.703.527.3887 (INT)**

**Signal Word:**
WARNING!

**Hazard statement(s)**

| | |
|---|---|
| H226 | Flammable liquid and vapor |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

**Precautionary statement(s)**

| | |
|---|---|
| P261 | Avoid breathing dust/fumes/gas/mist/vapors. |
| P312 | Call a POISON CENTER or doctor/ physician if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. |
| P210 | Keep away from heat, sparks, open flames, and hot surfaces. No smoking. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P280 | Wear protective gloves and eye and face protection. |

**GHS Classification(s)**
Eye irritation (Category 2)
Flammable Liquids (Category 3)
Specific target organ toxicity - single exposure (Category 3)

**Other hazards which do not result in classification:**

**Potential Health Effects:**
**EUH019: May form explosive peroxides.**

| Organ | Description |
|---|---|
| Eyes | Can be irritating to the eyes |
| Ingestion | Can be harmful if ingested |
| Inhalation | Can be harmful, irritating the respiratory tract, if inhaled. |
| Skin | Can be harmful, causing localized irritation, if absorbed through the skin. |

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

PHARMCO-AAPER
THE POWER OF THREE[3]

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA) +1.703.527.3887 (INT)**

**Chemical identity:** Methyl Amyl Alcohol
**Common name / Synonym:** Isobutyl methyl carbinol; 4-Methyl-2-pentanol; 2-Methyl-4-pentanol; 4-methylpentane-2-ol; 1,3-Dimethylbutanol; Methyl amyl alcohol; Isobutyl methyl methanol
**CAS number:** 108-11-2
**EINECS number:** 203-551-7
**ICSC number:** 0665
**RTECS #:** SA7350000
**UN #:** 2053
**EC #:** 603-008-00-8

| % Weight | Material | CAS |
|---|---|---|
| 100 | Methyl Amyl Alcohol | 108-11-2 |

## 4. FIRST AID MEASURES

**General advice**

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Skin**

Wash skin with soap and copious amounts of water. Seek medical attention.

**Inhalation**

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

**Eyes**

Flush eyes with water as a precaution.

**Ingestion**

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

## 5. FIRE FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):**

Carbon oxides expected to be the primary hazardous combustion product.

**Special protective equipment and precautions for firefighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

**Flammable Properties**
**Classification**
OSHA/NFPA Class II Combustible Liquid.
**Flash point**
41 °C (106 °F) - closed cup

---

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions:**

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

**Methods and materials for containment and cleaning up:**

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

---

## 7. HANDLING AND STORAGE

**Precautions for safe handling:**

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

**Conditions for safe storage, including any incompatibilites:**

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters, e.g., occupational exposure limit values or biological limit values:**

**Occupational Exposure Limits**

| Component | Source | Type | Value | Note |
|---|---|---|---|---|
| Methyl Amyl Alcohol | US (OSHA) | TWA | 25 ppm, 100 mg/m3 | 29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants |
| Methyl Amyl Alcohol | US (ACGIH) | STEL | 40 ppm | ACGIH Threshold Limit Value |
| Methyl Amyl Alcohol | US (ACGIH) | TWA | 25 ppm | ACGIH Threshold Limit Value |

**Appropriate engineering controls:**

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance *(physical state, color, etc.)*** | Liquid. Colorless, clear. |
| **Odor** | Specific data not available |
| **Odor threshold** | Specific data not available |
| **pH** | Specific data not available |
| **Freezing point** | -90 °C (-130 °F) |
| **Initial boiling point and boiling range** | 132 °C (270 °F) |
| **Flash point** | 41 °C (106 °F) - closed cup |
| **Evaporation rate** | Specific data not available |
| **Flammability (solid, gas)** | Specific data not available |
| **Upper / Lower flammability or explosive limits** | 5.5 %(V) / 1.0 %(V) |
| **Vapor pressure** | 4.9 hPa (3.7 mmHg) at 20 °C (68 °F) |
| **Vapor Density** | 4.09 |
| **Relative Density** | 0.802 g/cm3 at 25 °C (77 °F) |

| | |
|---|---|
| **Solubility(ies)** | Miscible |
| **Partition coefficient n-octanol/water(ies)** | log Pow: 1.6 |
| **Auto-ignition temperature** | Specific data not available |
| **Decomposition temperature** | Specific data not available |
| **Formula (METHYL AMYL ALCOHOL)** | C6H14O |
| **Molecular Weight (METHYL AMYL ALCOHOL)** | 102.17 g/mol |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical Stability** | Stable under recommended storage conditions. |
| **Possibility of hazardous reactions** | Vapors may form explosive mixture with air. |
| **Conditions to avoid (e.g., static discharge, shock or vibration)** | No data available |
| **Incompatible materials** | No data available |
| **Hazardous decomposition products** | Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products. |

## 11. TOXICOLOGICAL INFORMATION

- Methyl Amyl Alcohol 108-11-2

**Product Summary:**
No data available for the mutagenic, teratogenic, or reproductive effects of the product. No data available to designate product as an aspiration hazard or to cause specific target organ toxicity through repeated exposure.

**Acute Toxicity:**

| | | | |
|---|---|---|---|
| LD50 (Dermal) | Rabbit | 2,877 mg/kg | |
| LD50 (Oral) | Rat | 2,590 mg/kg | |

**Irritation:**

**Eyes**
No data available.

**Respiratory or Skin Sensitization**
No data available

**Skin**
No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
Inhalation - May cause respiratory irritation - Respiratory tract

**Carcinogenicity**

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THE POWER OF THREE[3]

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA) +1.703.527.3887 (INT)**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Other Hazards**

| Organ | Description |
|---|---|
| Eyes | Irritating to the eyes. |
| Ingestion | Can be harmful if ingested. |
| Inhalation | Can be irritating to the respiratory tract if inhaled. |
| Skin | Can be irritating to the skin. |

## 12. ECOLOGICAL INFORMATION

- Methyl Amyl Alcohol 108-11-2

**Ecotoxicity (aquatic and terrestrial, where available):**
**Acute Fish Toxicity (METHYL AMYL ALCOHOL)**
LC50 / Fathead Minnow - >100 mg/L

**Persistence and degradability:**
No data available

**Bioaccumulative potential:**
No data available

**Other adverse effects:**
No data available

## 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

## 14. TRANSPORT INFORMATION

**Description of waste residues and information on their safe handling and methods of disposal:**

| | |
|---|---|
| **UN number** | 2053 |
| **UN proper shipping name** | Methyl isobutyl carbinol |
| **Transport hazard class(es)** | 3 |
| **Packing group *(if applicable)*** | III |

**IMDG**
UN-Number: 2053 Class: 3 Packing Group: III
EMS-No: F-E, S-D
Proper shipping name: METHYL ISOBUTYL CARBINOL
Marine pollutant: No
**IATA**
UN-Number: 2053 Class: 3 Packing Group: III
Proper shipping name: Methyl isobutyl carbinol

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product in question:**

**OSHA Hazards**
Combustible liquid, Irritant

All ingredients are on the following inventories or are exempted from listing

| Country | Notification |
|---|---|
| Australia | AICS |
| Canada | DSL |
| China | IECS |
| European Union | EINECS |
| Japan | ENCS/ISHL |
| Korea | ECL |
| New Zealand | NZIoC |
| Philippines | PICCS |
| United States of America | TSCA |

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Acute Health Hazard
Fire Hazard

**CERCLA**
No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

**Massachusetts Right To Know Components**
Methyl Amyl Alcohol CAS-No. 108-11-2 Revision Date 1993-04-24

**Pennsylvania Right To Know Components**
Methyl Amyl Alcohol CAS-No. 108-11-2 Revision Date 1993-04-24

**New Jersey Right To Know Components**
Methyl Amyl Alcohol CAS-No. 108-11-2 Revision Date 1993-04-24

**California Prop 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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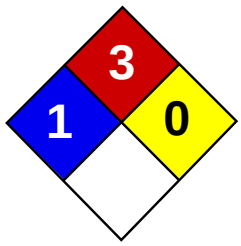
## 16. OTHER INFORMATION:
## INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

**Disclaimer**
PHARMCO-AAPER believes that the information on this MSDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, PHARMCO-AAPER does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable. Information is correct to the best of our knowledge at the date of the MSDS publication.



# Material Safety Data Sheet
## Methyl ethyl ketone MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Methyl ethyl ketone

**Catalog Codes:** SLM2626, SLM3232

**CAS#:** 78-93-3

**RTECS:** EL6475000

**TSCA:** TSCA 8(b) inventory: Methyl ethyl ketone

**CI#:** Not applicable.

**Synonym:** 2-Butanone

**Chemical Name:** Methyl Ethyl Ketone

**Chemical Formula:** C4H8O

**Contact Information:**

**Sciencelab.com, Inc.**
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

**CHEMTREC (24HR Emergency Telephone), call:**
1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Methyl ethyl ketone | 78-93-3 | 100 |

**Toxicological Data on Ingredients:** Methyl ethyl ketone: ORAL (LD50): Acute: 2737 mg/kg [Rat]. 4050 mg/kg [Mouse]. DERMAL (LD50): Acute: 6480 mg/kg [Rabbit]. VAPOR (LC50): Acute: 23500 mg/m 8 hours [Rat].

### Section 3: Hazards Identification

**Potential Acute Health Effects:**
Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation (lung irritant).

**Potential Chronic Health Effects:**
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

### Section 4: First Aid Measures

**Eye Contact:**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

**Skin Contact:**
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:**
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 404°C (759.2°F)

**Flash Points:** CLOSED CUP: -9°C (15.8°F). OPEN CUP: -5.5556°C (22°F) (Tag).

**Flammable Limits:** LOWER: 1.8% UPPER: 10%

**Products of Combustion:** These products are carbon oxides (CO, CO2).

**Fire Hazards in Presence of Various Substances:** Highly flammable in presence of open flames and sparks, of heat.

**Explosion Hazards in Presence of Various Substances:**
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Explosive in presence of oxidizing materials, of acids.

**Fire Fighting Media and Instructions:**
Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

**Special Remarks on Fire Hazards:**
Ignition on contact with potassium t-butoxide. Vapor may cause a flash fire

**Special Remarks on Explosion Hazards:**
Reaction with Hydrogen Peroxide + nitric acid forms heat and shock-sensitive explosive product. Mixture with 2-propanol will produce explosive peroxides during storage.

## Section 6: Accidental Release Measures

**Small Spill:**
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill:**
Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined

areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:**
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

**Storage:**
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**
TWA: 200 STEL: 300 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 150 STEL: 300 (ppm) [Australia] TWA: 590 STEL: 885 (mg/m3) from NIOSH TWA: 200 STEL: 300 (ppm) from NIOSH TWA: 590 STEL: 885 (mg/m3) [Canada] TWA: 200 STEL: 300 (ppm) from OSHA (PEL) [United States] TWA: 590 STEL: 885 (mg/m3) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:**
Acetone-like Pleasant. Pungent. Sweetish. (Strong.)

**Taste:** Not available.

**Molecular Weight:** 72.12g/mole

**Color:** Clear Colorless.

**pH (1% soln/water):** Not available.

**Boiling Point:** 79.6 (175.3°F)

**Melting Point:** -86°C (-122.8°F)

**Critical Temperature:** 262.5°C (504.5°F)

**Specific Gravity:** 0.805(Water = 1)

**Vapor Pressure:** 10.3 kPa (@ 20°C)

**Vapor Density:** 2.41 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** 0.25 ppm

**Water/Oil Dist. Coeff.:** The product is more soluble in oil; log(oil/water) = 0.3

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether, acetone.

**Solubility:** Soluble in cold water, diethyl ether, acetone.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Heat, ignition sources, mechanical shock, incompatible materials.

**Incompatibility with various substances:** Reactive with oxidizing agents, metals, acids, alkalis.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:**
Incompatible with chloroform, copper, hydrogen peroxide, nitric acid, potassium t-butoxide, 2-propanol, chlorosulfonic acid, strong oxidizers, amines, ammonia, inorganic acids, isocyanates, caustics, pyrindines. Vigorous reaction with chloroform +alkali.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Dermal contact. Eye contact. Inhalation.

**Toxicity to Animals:**
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2737 mg/kg [Rat]. Acute dermal toxicity (LD50): 6480 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 32000 mg/m3 4 hours [Mouse].

**Chronic Effects on Humans:**
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation (lung irritant).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May cause birth defects based on animal dats. Embryotoxic and/or foetotoxic in animal.

**Special Remarks on other Toxic Effects on Humans:**
Acute Potential Health Effects: Skin: Causes skin irritation. May be absorbed through the skin. Eyes: Causes eye irritation. Inhalation: Inhalation of high concentrations may cause central nervous effects characterized by headache, dizziness, unconsciousness, and coma. Causes respiratory tract irritation and affects the sense organs. May affect the liver and urinary system. Ingestion: Causes gastrointestinal tract irritation with nausea, vomiting and diarrhea. May affect the liver. Chronic Potential Health Effects: Chronic inhalation may cause effects similar to those of acute inhalation. Prolonged or repeated skin contact may cause defatting and dermatitis.

## Section 12: Ecological Information

**Ecotoxicity:** Ecotoxicity in water (LC50): 3220 mg/l 96 hours [Fathead Minnow]. 1690 mg/l 96 hours [Bluegill].

**BOD5 and COD:** Not available.

**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** CLASS 3: Flammable liquid.

**Identification:** : Ethyl methyl ketone UNNA: 1193 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**
New York release reporting list: Methyl ethyl ketone Rhode Island RTK hazardous substances: Methyl ethyl ketone Pennsylvania RTK: Methyl ethyl ketone Minnesota: Methyl ethyl ketone Massachusetts RTK: Methyl ethyl ketone New Jersey: Methyl ethyl ketone California Director's list of Hazardous Substances: Methyl ethyl ketone TSCA 8(b) inventory: Methyl ethyl ketone TSCA 8(d) H and S data reporting: Methyl ethyl ketone: Effective: 10/4/82; Sunset: 10/4/92 SARA 313 toxic chemical notification and release reporting: Methyl ethyl ketone CERCLA: Hazardous substances.: Methyl ethyl ketone: 5000 lbs. (2268 kg)

**Other Regulations:**
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):**
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC):**
R11- Highly flammable. R36/37- Irritating to eyes and respiratory system. S9- Keep container in a well-ventilated place. S16- Keep away from sources of ignition - No smoking. S25- Avoid contact with eyes. S33- Take precautionary measures against static discharges.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** h

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 3

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 08:39 PM

**Last Updated:** 05/21/2013 12:00 PM

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# Material Safety Data Sheet

**EMERGENCY NUMBERS:**

**(USA) CHEMTREC : 1(800) 424-9300 (24hrs)**
**(CAN) CANUTEC : 1(613) 996-6666 (24hrs)**
**(USA) Anachemia : 1(518) 297-4444**
**(CAN) Anachemia : 1(514) 489-5711**

| WHMIS | Protective Clothing | TDG Road/Rail |
|---|---|---|
| WHMIS CLASS: B-2 D-2A D-2B | | TDG CLASS: 3<br>PIN: UN1193 PG: II |
|  |  |  |

## Section I. Product Identification and Uses

| | |
|---|---|
| **Product name** | **METHYL ETHYL KETONE** |
| **Chemical formula** | CH3COCH2CH3 |
| **Synonyms** | 2-Butanone, MEK, Ethyl methyl ketone, AC-5982, AC-5982P, GD-5982, M-13037, M-10835, 58934, 58946, 58922 |
| **Supplier** | Anachemia Canada.<br>255 Norman.<br>Lachine (Montreal), Que<br>H8R 1A3 |
| **Material uses** | For laboratory use only. |

| | |
|---|---|
| **CI#** | Not available. |
| **CAS#** | 78-93-3 |
| **Code** | AC-5982 |
| **Formula weight** | 72.11 |
| **Supersedes** | |

## Section II. Ingredients

| Name | CAS # | % | TLV |
|---|---|---|---|
| 1) METHYL ETHYL KETONE | 78-93-3 | 99 | Exposure limits: ACGIH TWA 200 ppm (590 mg/m3); STEL 300 ppm (885 mg/m3) |

**Toxicity values of the hazardous ingredients**

METHYL ETHYL KETONE:
ORAL (LD50): Acute: 2737 mg/kg (Rat). 3000 mg/kg (Mouse).
DERMAL (LD50): Acute: 6480 ml/kg (Rabbit).
VAPOR (LC50): Acute: 23500 mg/m3 (Rat) (8 hour(s)). 32000 mg/m3 (Mouse) (4 hour(s)).
INTRAPERITONEAL (LD50): Acute: 616 mg/kg (Mouse).

## Section III. Physical Data

| | |
|---|---|
| **Physical state and appearance / Odor** | Colorless liquid. Pungent odor. |
| **pH (1% soln/water)** | Not available. |
| **Odor threshold** | Not available. |
| **Percent volatile** | 100% (V/V) |
| **Freezing point** | -85°C |
| **Boiling point** | 80°C |
| **Specific gravity** | 0.805 (Water = 1) |
| **Vapor density** | 2.5 (Air = 1) |
| **Vapor pressure** | 91 mmHg @ 25°C |
| **Water/oil dist. coeff.** | Not available. |
| **Evaporation rate** | 11.6 (n-Butyl acetate = 1). |
| **Solubility** | 26.8 g/100 g H2O @ 20°C |

## Section IV. Fire and Explosion Data

| | |
|---|---|
| **Flash point** | CLOSED CUP: -20°C (Tag Closed Cup) |
| **Flammable limits** | LOWER: 2.5% UPPER: 12.8% |
| **Auto-ignition temperature** | 465°C |
| **Fire degradation products** | Oxides of carbon (CO, CO2). Aldehydes, ketones, acids and unidentified organic compounds on combustion. |
| **Fire extinguishing procedures** | Water fog, carbon dioxide, alcohol foam or dry chemical powder. Water may be ineffective to extinguish fires. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water until well after fire is out. Disperse vapors with water spray if they have not ignited. |
| **Fire and Explosion Hazards** | Flammable liquid. Vapors formed from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point. Vapor forms explosive mixture with air. Container explosion may occur under fire conditions or when heated. Contact with oxidizers may cause fire and/or explosion. The product is not sensitive to impact. Sensitive to static discharge. Emits toxic fumes under fire conditions. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Routes of entry** | Inhalation and ingestion. Skin absorption. Eye contact. Skin contact. |
| **Effects of Acute Exposure** | Harmful by ingestion, inhalation, or skin absorption. May be fatal. Irritant. Target organs: nasal septum, lungs, eyes, skin, mucous membranes, central nervous system, respiratory system. Animal: liver, kidneys, lungs, spleen, brain. 3000 ppm (METHYL ETHYL KETONE) is immediately dangerous to life or health. |
| **Eye** | Causes severe irritation. May cause permanent damage. |
| **Skin** | Causes skin irritation. Defatting dermatitis with prolonged use. Readily absorbed through skin. |
| **Inhalation** | Material is irritating to mucous membranes and upper respiratory tract. Central nervous system depression, dizziness, weakness, fatigue, nausea, headache, blurred vision, vomiting and unconsciousness. |
| **Ingestion** | Causes gastrointestinal irritation. See inhalation. May cause abdominal pain, headache, dizziness, fatigue, central nervous system depression, diarrhea and vomiting. Aspiration into the lungs may cause chemical pneumonitis and pulmonary edema which can be fatal. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Effects of Chronic Overexposure** | May cause dermatitis and central nervous system depression. Methyl ethyl ketone has been reported to potentiate the neurotoxic effects caused by either n-hexane or methyl-n-butyl ketone. Embryotoxic and/or foetotoxic in animal. Human: passes the placental barrier, detected in maternal milk. Carcinogenic effects: Not available. Mutagenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated. Medical conditions which may be aggravated: Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product. |

## Section VI. First Aid Measures

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. |
| **Skin contact** | Immediately flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reusing. Discard contaminated leather articles such as shoes and belt. |
| **Inhalation** | Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Call a physician. |
| **Ingestion** | DO NOT induce vomiting. Guard against aspiration into lungs by having the victim turn on to their left side. If conscious, wash out mouth with water. Give one or two glasses (240-300 ml) of water to dilute material in the stomach unless victim is drowsy, convulsing, or unconscious. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek immediate medical attention. |

## Section VII. Reactivity Data

| | |
|---|---|
| **Stability** | Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination. |
| **Hazardous decomp. products** | Not available. |
| **Incompatibility** | Oxidizing agents, acids, bases, reducing agents, chlorinated compounds, copper and copper alloys, amines, ammonia, aldehydes, halogens, potassium t-butoxide, chloroform, hydrogen peroxide, 2-propanol, acetaldehyde, chlorosulfonic acid, oleum, perchloric acid, nitric acid, sulfuric acid, nitric acid plus hydrogen peroxide. Reduced catalyst, especially when warm, reacts with oxygen on contact with air which could ignite flammable mixtures. Avoid excessive heat. May attack some forms of plastics, rubbers and coatings. |
| **Reaction Products** | Not available. Hazardous polymerization will not occur. |

## Section VIII. Preventive Measures

**Protective Clothing in case of spill and leak**
Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.

**Spill and leak**
Evacuate the area. Eliminate all sources of ignition. Absorb on sand or vermiculite and place in a closed container for disposal. Use water spray to reduce vapors. Use non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Runoff to sewer may create fire or explosion hazard. Stay upwind: Keep out of low areas.

**Waste disposal**
Burn in a chemical incinerator equipped with an after burner and scrubber. According to all applicable regulations. May be harmful to aquatic life.

**Storage and Handling**
Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Take precautionary measures against electrostatic discharges. Ground the container while dispensing. Ground all equipment containing material. Use explosion proof equipment. Use non-sparking tools. Watch for accumulation in low confined areas. Do not use pressure to dispense. Product is highly hygroscopic. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.). Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Aluminum containers are not recommended for storage.

## Section IX. Protective Measures

**Protective clothing**
Splash goggles. Impervious (butyl rubber) gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Have available and use as appropriate: face shields, rubber suits, aprons, and boots. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.

**Engineering controls**
Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Do not use in unventilated spaces.

## Section X. Other Information

**Special Precautions or comments**
Flammable liquid! Embryotoxic and/or foetotoxic! Irritant! Risk of serious damage to eyes. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Keep away from heat, sparks and flame. Take precautionary measures against static discharges. Bond and ground transfer containers and equipment to avoid static accumulation. Use non-sparking tools. Handle and open container with care. Container should be opened only by a technically qualified person. Synergistic materials: carbon tetrachloride, chloroform, 2,5-hexanedione, m-xylene, xylenes. Methyl ethyl ketone has been reported to potentiate the neurotoxic effects caused by either n-hexane or methyl-n-butyl ketone. Methyl ethyl ketone by itself does not cause peripheral neuropathy. Methyl ethyl ketone may also potentiate the liver and kidney toxicity of haloalkane solvents.
NOTE TO PHYSICIAN: If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.
RTECS NO: EL6475000 (Methyl ethyl ketone).

NFPA

**Prepared by MSDS Department/Département de F.S..**

**Validated 04-Dec-2012**

# Material Safety Data Sheet

**EMERGENCY NUMBERS:**

**(USA) CHEMTREC : 1(800) 424-9300 (24hrs)**
**(CAN) CANUTEC : 1(613) 996-6666 (24hrs)**
**(USA) Anachemia : 1(518) 297-4444**
**(CAN) Anachemia : 1(514) 489-5711**

| WHMIS | Protective Clothing | TDG Road/Rail |
|---|---|---|
| WHMIS CLASS: B-2 D-2A D-2B | | TDG CLASS: 3<br>PIN: UN1193 PG: II |
|  |  |  |

## Section I. Product Identification and Uses

| | |
|---|---|
| **Product name** | **METHYL ETHYL KETONE** |
| **Chemical formula** | CH3COCH2CH3 |
| **Synonyms** | 2-Butanone, MEK, Ethyl methyl ketone, AC-5982, AC-5982P, GD-5982, M-13037, M-10835, 58934, 58946, 58922 |
| **Supplier** | Anachemia Canada.<br>255 Norman.<br>Lachine (Montreal), Que<br>H8R 1A3 |
| **Material uses** | For laboratory use only. |

| | |
|---|---|
| **CI#** | Not available. |
| **CAS#** | 78-93-3 |
| **Code** | AC-5982 |
| **Formula weight** | 72.11 |
| **Supersedes** | |

## Section II. Ingredients

| Name | CAS # | % | TLV |
|---|---|---|---|
| 1) METHYL ETHYL KETONE | 78-93-3 | 99 | Exposure limits: ACGIH TWA 200 ppm (590 mg/m3); STEL 300 ppm (885 mg/m3) |

**Toxicity values of the hazardous ingredients**

METHYL ETHYL KETONE:
ORAL (LD50): Acute: 2737 mg/kg (Rat). 3000 mg/kg (Mouse).
DERMAL (LD50): Acute: 6480 ml/kg (Rabbit).
VAPOR (LC50): Acute: 23500 mg/m3 (Rat) (8 hour(s)). 32000 mg/m3 (Mouse) (4 hour(s)).
INTRAPERITONEAL (LD50): Acute: 616 mg/kg (Mouse).

## Section III. Physical Data

| | |
|---|---|
| **Physical state and appearance / Odor** | Colorless liquid. Pungent odor. |
| **pH (1% soln/water)** | Not available. |
| **Odor threshold** | Not available. |
| **Percent volatile** | 100% (V/V) |
| **Freezing point** | -85°C |
| **Boiling point** | 80°C |
| **Specific gravity** | 0.805 (Water = 1) |
| **Vapor density** | 2.5 (Air = 1) |
| **Vapor pressure** | 91 mmHg @ 25°C |
| **Water/oil dist. coeff.** | Not available. |
| **Evaporation rate** | 11.6 (n-Butyl acetate = 1). |
| **Solubility** | 26.8 g/100 g H2O @ 20°C |

## Section IV. Fire and Explosion Data

| | |
|---|---|
| **Flash point** | CLOSED CUP: -20°C (Tag Closed Cup) |
| **Flammable limits** | LOWER: 2.5% UPPER: 12.8% |
| **Auto-ignition temperature** | 465°C |
| **Fire degradation products** | Oxides of carbon (CO, CO2). Aldehydes, ketones, acids and unidentified organic compounds on combustion. |
| **Fire extinguishing procedures** | Water fog, carbon dioxide, alcohol foam or dry chemical powder. Water may be ineffective to extinguish fires. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water until well after fire is out. Disperse vapors with water spray if they have not ignited. |
| **Fire and Explosion Hazards** | Flammable liquid. Vapors formed from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point. Vapor forms explosive mixture with air. Container explosion may occur under fire conditions or when heated. Contact with oxidizers may cause fire and/or explosion. The product is not sensitive to impact. Sensitive to static discharge. Emits toxic fumes under fire conditions. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Routes of entry** | Inhalation and ingestion. Skin absorption. Eye contact. Skin contact. |
| **Effects of Acute Exposure** | Harmful by ingestion, inhalation, or skin absorption. May be fatal. Irritant. Target organs: nasal septum, lungs, eyes, skin, mucous membranes, central nervous system, respiratory system. Animal: liver, kidneys, lungs, spleen, brain. 3000 ppm (METHYL ETHYL KETONE) is immediately dangerous to life or health. |
| **Eye** | Causes severe irritation. May cause permanent damage. |
| **Skin** | Causes skin irritation. Defatting dermatitis with prolonged use. Readily absorbed through skin. |
| **Inhalation** | Material is irritating to mucous membranes and upper respiratory tract. Central nervous system depression, dizziness, weakness, fatigue, nausea, headache, blurred vision, vomiting and unconsciousness. |
| **Ingestion** | Causes gastrointestinal irritation. See inhalation. May cause abdominal pain, headache, dizziness, fatigue, central nervous system depression, diarrhea and vomiting. Aspiration into the lungs may cause chemical pneumonitis and pulmonary edema which can be fatal. |

## Section V. Toxicological Properties

| | |
|---|---|
| **Effects of Chronic Overexposure** | May cause dermatitis and central nervous system depression. Methyl ethyl ketone has been reported to potentiate the neurotoxic effects caused by either n-hexane or methyl-n-butyl ketone. Embryotoxic and/or foetotoxic in animal. Human: passes the placental barrier, detected in maternal milk. Carcinogenic effects: Not available. Mutagenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated. Medical conditions which may be aggravated: Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product. |

## Section VI. First Aid Measures

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. |
| **Skin contact** | Immediately flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reusing. Discard contaminated leather articles such as shoes and belt. |
| **Inhalation** | Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Call a physician. |
| **Ingestion** | DO NOT induce vomiting. Guard against aspiration into lungs by having the victim turn on to their left side. If conscious, wash out mouth with water. Give one or two glasses (240-300 ml) of water to dilute material in the stomach unless victim is drowsy, convulsing, or unconscious. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek immediate medical attention. |

## Section VII. Reactivity Data

| | |
|---|---|
| **Stability** | Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination. |
| **Hazardous decomp. products** | Not available. |
| **Incompatibility** | Oxidizing agents, acids, bases, reducing agents, chlorinated compounds, copper and copper alloys, amines, ammonia, aldehydes, halogens, potassium t-butoxide, chloroform, hydrogen peroxide, 2-propanol, acetaldehyde, chlorosulfonic acid, oleum, perchloric acid, nitric acid, sulfuric acid, nitric acid plus hydrogen peroxide. Reduced catalyst, especially when warm, reacts with oxygen on contact with air which could ignite flammable mixtures. Avoid excessive heat. May attack some forms of plastics, rubbers and coatings. |
| **Reaction Products** | Not available. Hazardous polymerization will not occur. |

## Section VIII. Preventive Measures

| | |
|---|---|
| **Protective Clothing in case of spill and leak** | Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit. |
| **Spill and leak** | Evacuate the area. Eliminate all sources of ignition. Absorb on sand or vermiculite and place in a closed container for disposal. Use water spray to reduce vapors. Use non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Runoff to sewer may create fire or explosion hazard. Stay upwind: Keep out of low areas. |
| **Waste disposal** | Burn in a chemical incinerator equipped with an after burner and scrubber. According to all applicable regulations. May be harmful to aquatic life. |
| **Storage and Handling** | Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Take precautionary measures against electrostatic discharges. Ground the container while dispensing. Ground all equipment containing material. Use explosion proof equipment. Use non-sparking tools. Watch for accumulation in low confined areas. Do not use pressure to dispense. Product is highly hygroscopic. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.). Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Aluminum containers are not recommended for storage. |

## Section IX. Protective Measures

| | |
|---|---|
| **Protective clothing** | Splash goggles. Impervious (butyl rubber) gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Have available and use as appropriate: face shields, rubber suits, aprons, and boots. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location. |
| **Engineering controls** | Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Do not use in unventilated spaces. |

## Section X. Other Information

**Special Precautions or comments**

Flammable liquid! Embryotoxic and/or foetotoxic! Irritant! Risk of serious damage to eyes. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Keep away from heat, sparks and flame. Take precautionary measures against static discharges. Bond and ground transfer containers and equipment to avoid static accumulation. Use non-sparking tools. Handle and open container with care. Container should be opened only by a technically qualified person. Synergistic materials: carbon tetrachloride, chloroform, 2,5-hexanedione, m-xylene, xylenes. Methyl ethyl ketone has been reported to potentiate the neurotoxic effects caused by either n-hexane or methyl-n-butyl ketone. Methyl ethyl ketone by itself does not cause peripheral neuropathy. Methyl ethyl ketone may also potentiate the liver and kidney toxicity of haloalkane solvents.
NOTE TO PHYSICIAN: If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.
RTECS NO: EL6475000 (Methyl ethyl ketone).


NFPA

**Prepared by MSDS Department/Département de F.S..**

**Validated 04-Dec-2012**

MSDS Number: **M4420** * * * * * *Effective Date: 07/22/02* * * * * *Supercedes: 05/17/01*

MSDS Material Safety Data Sheet

*From:* Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300
National Response in Canada
CANUTEC: 613-996-6666
Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# METHYLENE CHLORIDE

## 1. Product Identification

**Synonyms:** MC; Dichloromethane (DCM); Methylene dichloride; Methylene bichloride; Methane dichloride
**CAS No.:** 75-09-2
**Molecular Weight:** 84.93
**Chemical Formula:** CH2Cl2
**Product Codes:** 9235, 9264, 9266, 9295, 9315, 9324, 9329, 9330, 9341, 9348, 9350, 9965, Q480

## 2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|---|---|---|---|
| Methylene Chloride | 75-09-2 | > 99% | Yes |

## 3. Hazards Identification

**Emergency Overview**

**WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER, CARDIOVASCULAR SYSTEM, AND BLOOD. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. SUSPECT CANCER HAZARD. MAY CAUSE CANCER. Risk of cancer depends on level and duration of exposure.**

**J.T. Baker SAF-T-DATA(tm)** Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Cancer Causing)
Flammability Rating: 1 - Slight
Reactivity Rating: 1 - Slight
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: Blue (Health)

**Potential Health Effects**

**Inhalation:**
Causes irritation to respiratory tract. Has a strong narcotic effect with symptoms of mental confusion, light-headedness, fatigue, nausea, vomiting and headache. Causes formation of carbon monoxide in blood which affects cardiovascular system and central nervous system. Continued exposure may cause increased light-headedness, staggering, unconsciousness, and even death. Exposure may make the symptoms of angina (chest pains) worse.
**Ingestion:**
May cause irritation of the gastrointestinal tract with vomiting. If vomiting results in aspiration, chemical pneumonia could follow. Absorption through gastrointestinal tract may produce symptoms of central nervous system depression ranging from light headedness to unconsciousness.
**Skin Contact:**
Causes irritation, redness and pain. Prolonged contact can cause burns. Liquid degreases the skin. May be absorbed through skin.
**Eye Contact:**

Vapors can cause eye irritation. Contact can produce pain, inflammation and temporal eye damage.
**Chronic Exposure:**
Can cause headache, mental confusion, depression, liver effects, kidney effects, bronchitis, loss of appetite, nausea, lack of balance, and visual disturbances. Can cause dermatitis upon prolonged skin contact. Methylene chloride may cause cancer in humans.
**Aggravation of Pre-existing Conditions:**
Persons with pre-existing skin disorders, eye problems, impaired liver, kidney, respiratory or cardiovascular function may be more susceptible to the effects of this substance.

## 4. First Aid Measures

**Inhalation:**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
**Ingestion:**
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
**Skin Contact:**
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
**Eye Contact:**
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. Fire Fighting Measures

**Fire:**
Autoignition temperature: 556C (1033F)
Flammable limits in air % by volume:
lel: 12; uel: 23
Forms flammable vapor-air mixtures above 100C (212F).
**Explosion:**
Concentrated can be ignited by a high intensity ignition source. Vapor may form flammable mixture in atmosphere that contains a high percentage of oxygen. Sealed containers may rupture when heated.
**Fire Extinguishing Media:**
Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.
**Special Information:**
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Combustion by-products include phosgene and hydrogen chloride gases. Structural firefighters' clothing provides only limited protection to the combustion products of this material.

## 6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Outside or detached storage is recommended. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. To minimize decomposition, all storage containers should be galvanized or lined with a phenolic coating. This material may corrode plastic and rubber. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace. Odor Threshold: 205 - 307 ppm. The odor threshold only serves as a warning of exposure; not smelling it does not mean you are not being exposed.

## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**
Methylene Chloride (Dichloromethane):
- OSHA Permissible Exposure Limit (PEL) -
25 ppm (TWA), 125 ppm (STEL), 12.5 ppm (8-hour TWA - Action Level)
- ACGIH Threshold Limit Value (TLV) -
50 ppm (TWA), A3 - suspected human carcinogen.
**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**
If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. The cartridges recommended for this material have a predicted service of less than 30 minutes at concentrations of ten times (10x) the exposure limits. Actual service life will vary considerbly, depending on concentration levels, temperature, humidity, and work rate. This substance has poor warning properties.

**Skin Protection:**
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene is a recommended material for personal protective equipment. Natural rubber and polyvinyl chloride ARE NOT recommended materials for personal protective equipment.

**Eye Protection:**
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Other Control Measures:**
Do not use closed circuit rebreathing system employing soda lime or other carbon dioxide absorber because of formation of toxic compounds capable of producing cranial nerve paralysis. See OSHA Standard for medical surveillance, record keeping, and reporting requirements for methylene chloride (29 CFR 1910.1052).

## 9. Physical and Chemical Properties

**Appearance:**
Clear, colorless liquid.

**Odor:**
Chloroform-like odor.

**Solubility:**
1.32 gm/100 gm water @ 20C.

**Specific Gravity:**
1.318 @ 25C

**pH:**
No information found.

**% Volatiles by volume @ 21C (70F):**
100

**Boiling Point:**
39.8C (104F)

**Melting Point:**
-97C (-143F)

**Vapor Density (Air=1):**
2.9

**Vapor Pressure (mm Hg):**
350 @ 20C (68F)

**Evaporation Rate (BuAc=1):**
27.5

## 10. Stability and Reactivity

**Stability:**
Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**
Emits highly toxic fumes of phosgene when heated to decomposition. Decomposes in a flame or hot surface to form toxic gas phosgene and corrosive mists of hydrochloric acid. Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:**
Will not occur.

**Incompatibilities:**
Strong oxidizers, strong caustics, plastics, rubber, nitric acid, water + heat, and chemically active metals, such as aluminum and magnesium powder, sodium, potassium, and lithium. Avoid contact with open flames and electrical arcs. Liquid methylene chloride will attack some forms of plastics, rubber, and coatings.

**Conditions to Avoid:**
Moisture, heat, flames, ignition sources and incompatibles.

## 11. Toxicological Information

**Toxicological Data:**
Dichloromethane: Oral rat LD50: 1600 mg/kg; inhalation rat LC50: 52 gm/m3; investigated as a tumorigen, mutagen, reproductive effector.

**Reproductive Toxicity:**
Dichloromethane has been linked to spontaneous abortions in humans.

--------\Cancer Lists\----------

| Ingredient | ---NTP Carcinogen--- Known | Anticipated | IARC Category |
|---|---|---|---|
| Methylene Chloride (75-09-2) | No | Yes | 2B |

## 12. Ecological Information

**Environmental Fate:**
When released into the soil, this material may leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of greater than 30 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.
**Environmental Toxicity:**
The LC50/96-hour values for fish are over 100 mg/l. This material is not expected to be toxic to aquatic life.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

**Domestic (Land, D.O.T.)**
---
**Proper Shipping Name:** DICHLOROMETHANE
**Hazard Class:** 6.1
**UN/NA:** UN1593
Packing Group: III
**Information reported for product/size:** 52L

**International (Water, I.M.O.)**
---
**Proper Shipping Name:** DICHLOROMETHANE
**Hazard Class:** 6.1
**UN/NA:** UN1593
Packing Group: III
**Information reported for product/size:** 52L

**International (Air, I.C.A.O.)**
---
**Proper Shipping Name:** DICHLOROMETHANE
**Hazard Class:** 6.1
**UN/NA:** UN1593
Packing Group: III
**Information reported for product/size:** 52L

## 15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------------------------------

| Ingredient | TSCA | EC | Japan | Australia |
|---|---|---|---|---|
| Methylene Chloride (75-09-2) | Yes | Yes | Yes | Yes |

--------\Chemical Inventory Status - Part 2\---------------------------------

| Ingredient | Korea | --Canada-- DSL | NDSL | Phil. |
|---|---|---|---|---|
| Methylene Chloride (75-09-2) | Yes | Yes | No | Yes |

--------\Federal, State & International Regulations - Part 1\----------------

| Ingredient | -SARA 302- RQ | TPQ | ------SARA 313------ List | Chemical Catg. |
|---|---|---|---|---|
| Methylene Chloride (75-09-2) | No | No | Yes | No |

--------\Federal, State & International Regulations - Part 2\----------------

| Ingredient | CERCLA | -RCRA- 261.33 | -TSCA- 8(d) |
|---|---|---|---|
| Methylene Chloride (75-09-2) | 1000 | U080 | No |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Liquid)

**WARNING:**
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

**Australian Hazchem Code:** 2Z
**Poison Schedule:** S5
**WHMIS:**
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: **2** Flammability: **1** Reactivity: **0**
**Label Hazard Warning:**
WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER, CARDIOVASCULAR SYSTEM, AND BLOOD. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. SUSPECT CANCER HAZARD. MAY CAUSE CANCER. Risk of cancer depends on level and duration of exposure.
**Label Precautions:**
Do not breathe vapor.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep away from heat and flame.
Do not get in eyes, on skin, or on clothing.
**Label First Aid:**
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.
**Product Use:**
Laboratory Reagent.
**Revision Information:**
MSDS Section(s) changed since last revision of document include: 9.
**Disclaimer:**
**********
**Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**
**********
**Prepared by:** Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

**MICRO-SURFACE FINISHING PRODUCTS INC**
**1217 WEST THIRD STREET**
**PO BOX 70**
**WILTON, IOWA 52778**
**563-732-3240**



## SECTION 1 MANUFACTURERS INFORMATION

| | |
|---|---|
| PRODUCT NAME: | MICRO-GLOSS |
| PRODUCT DESCRIPTION: | WHITE SLURRY, NO ODOR |
| CHEMICAL FAMILY: | SYNTHETIC ABRASIVE |
| REVISION DATE: | MAY 1, 2009 |

## SECTION 2 INGREDIENTS, COMPOSITION

| CHEMICAL NAME CAS REGISTRY NO. | % WT | ACGIH TLV | OSHA PEL | NOTES |
|---|---|---|---|---|
| | | | | NO HAZARDOUS INGREDIENTS PER CURRENT OSHA REGULATIONS |
| SECTION 313 SUPPLIER NOTIFICATION: "1" IDENTIFIES CHEMICAL INGREDIENTS SUBJECT TO REPORTING REQUIREMENTS OF SECTION 313 | | | | |
| OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986. THIS INFORMATION SHOULD BE INCLUDED IN ALL | | | | |
| MSDS'S THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL. | | | | |

## SECTION 3 HAZARDS INDENTIFICATION

| | | | |
|---|---|---|---|
| HEALTH ---------- | 0 | INSTABILITY ---------- | 0 |
| FIRE ---------- | 0 | OTHER ---------- | X |
| (0 = INSIGNIFICANT; 1 = SLIGHT; 2 = MODERATE; 3 = HIGH; 4 = EXTREME) | | | |
| HAZARD SIGNAL ( SHORT TERM CONTACT OR INHALATION ONLY) | | | |
| THRESHOLD LIMIT VALUE: | N.E., BLENDED PRODUCT. SEE SECTION 2 FOR INFORMATION ON LISTED INGREDIENTS | | |
| PRIMARY ROUTES OF ENTRY: | EYE CONTACT | | |
| EFFECTS OF ACUTE OVEREXPOSURE: | | | |
| EYES: | IRRITATION | | |
| SKIN: | DRYING OF SKIN POSSIBLE WITH PROLONGED USE | | |
| INHALATION: | MISTS OF PRODUCT OR SOLUTION - POSSIBLE IRRITATION OF RESPIRATORY TRACT | | |
| SWALLOWING: | STOMACH UPSET POSSIBLE | | |
| EFFECTS OF CHRONIC OVEREXPOSURE: | UNKNOWN; NONE EXPECTED BEYOND ACUTE EFFECTS | | |
| CARCINOGENICITY: | THIS PRODUCT OR ITS INGREDIENTS HAVE NOT BEEN IDENTIFIED AS A CARCINOGEN OR | | |
| | PROBABLE CARCINOGEN BY NTP, IARC MONOGRAPH, OR OSHA | | |
| MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: | NONE KNOWN OR EXPECTED | | |

## SECTION 4 FIRST AID MEASURES

| | |
|---|---|
| EYES: | IMMEDIATELY FLUSH WITH COOL RUNNING WATER HOLDING EYE LIDS APART. REMOVE CONTACT LENSES IF PRESENT |
| | AND CONTINUE FLUSHING FOR 15 MINUTES. GET MEDICAL ASSISTANCE IF IRRITATION PERSISTS OR IS SEVERE. |
| SKIN: | FLUSH THOROUGHLY WITH RUNNING WATER. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE. |
| | IF IRRITATION DEVELOPS AND PERSISTS, GET MEDICAL ADVICE OR ASSISTANCE. |
| INHALED: | REMOVE TO FRESH AIR. IMMEDIATELY CALL FOR MEDICAL ADVICE OR ASSISTANCE IF BREATHING DIFFICULTY |
| | OR IRRITATION IS SEVERE OR CONTINUES. |
| SWALLOWED: | RINSE MOUTH WITH LARGE AMOUNTS OF WATER. DRINK WATER, MILK OR OTHER FLUIDS TO DILUTE. DO NOT INDUCE |
| | VOMITING. CALL FOR MEDICAL ADVICE OR ASSISTANCE IF DIFFICULTIES AND DISCOMFORT DEVELOP AND CONTINUE. |

## SECTION 5 FIRE FIGHTING MEASURES

| | | | |
|---|---|---|---|
| FLASH POINT: | NONE | FLAMMABLE LIMITS LEL-UEL | NA |
| EXTINGUISHING MEDIA: | AS NEEDED FOR SURROUNDING FIRE | | |
| SPECIAL FIRE FIGHTING PROCEDURES: | FOR ANY CHEMICAL FIRE WEAR SELF CONTAINED BREATHING APPARATUS, AND PROTECTIVE CLOTHING TO PREVENT CONTACT | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | NONE | | |
| HAZARDOUS COMBUSTION PRODUCTS: | CARBON MONOXIDE, CARBON DIOXIDE | | |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| SMALL SPILLS: | FLUSH TO DRAIN WITH EXCESS WATER |
| LARGE SPILLS: | STOP SOURCE OF DISCHARGE IF SAFE TO DO SO, CONTAIN SPILLED MATERIAL, AND KEEP FROM DISCHARGING TO SURFACE WATERS, RECOVER TO DRUM FOR LATER USE, TREATMENT OR DISPOSAL. FLUSH RESIDUAL TO DRAIN. NOTIFY LOCAL, STATE OR NATIONAL AUTHORITIES IF REQUIRED |
| DISPOSAL: | NORMALLY SEWER DISPOSABLE IN DILUTE SOLUTIONS. CHECK WITH LOCAL AUTHORITIES ABOUT ANY POSSIBLE RESTRICTIONS |

## SECTION 7 HANDLING AND STORAGE

| | |
|---|---|
| HANDLING: | RINSE AFTER USE. AVOID BREATHING MISTS OF PRODUCT OR SOLUTION. PREVENT CONTACT WITH INCOMPATIBLE MATERIALS; SEE SECTION 10 |
| STORAGE: | KEEP CONTAINERS TIGHTLY CLOSED. KEEP FROM FREEZING; MAY RUPTURE CONTAINER OR DEGRADE PRODUCT. |

## SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

| | |
|---|---|
| VENTILATION: | NORMALLY NOT NECESSARY, IF MISTS ARE GENERATED HAVE GENERAL OR LOCAL VENTILATION TO AVOID AVOID BREATHING IRRITATING MISTS. |
| RESPIRATOR: | NONE NORMALLY REQUIRED. NIOSH/MSHA APPROVED RESPIRATOR WHERE CONDITIONS MAY CAUSE EXPOSURE LIMITS TO BE EXCEEDED FROM MISTS OF PRODUCT OR SOLUTION. |
| EYE PROTECTION: | GLASSES, GOGGLES, OR FACE SHIELD WHERE CONDITIONS MAY CAUSE EXCESSIVE EYE EXPOSURE. |
| PROTECTIVE CLOTHING: | CHEMICAL RESISTANT, IMPERMEABLE GLOVES AS NEEDED TO PREVENT EXCESSIVE CONTACT. FULL BODY COVERING AND SHOES AS NEEDED TO PREVENT EXCESSIVE CONTACT. |
| OTHER PROTECTIVE EQUIPMENT OR MEASURES: | EYE WASH STATIONS OR RUNNING WATER IN THE WORK AREA. |

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| BOILING POINT: | 212 ± 10° F | VAPOR PRESSURE (MM HG@70°) | NE |
| SPECIFIC GRAVITY: | 1.0 ± 0.1 | VAPOR DENSITY (AIR=1) | NE |
| PERCENT VOLATILE: | >80 | EVAPORATE RATE (ETHER=1) | LIKE WATER n-BUTYL ACETATE = 1 |
| SOLUBILITY IN WATER: | COMPLETE | PH | 7±1 |
| APPEARANCE AND ODOR: | SEE SECTION 1 | V.O.C. | NIL |

## SECTION 10 STABILITY AND REACTIVITY

| | |
|---|---|
| STABLE: | YES. HAZARDOUS POLYMERIZATION WILL NOT OCCUR |
| CONDITIONS TO AVOID: | CONTACT WITH INCOMPATIBLE MATERIALS (SEE BELOW) |
| INCOMPATIBLE MATERIALS: | STRONG OXIDIZING AGENTS |

NE = NOT ESTABLISHED
NA = NOT APPLICABLE

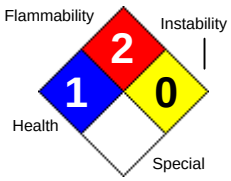
**DISCLAIMER**

THE ABOVE INFORMATION IS, TO THE BEST OF OUR KNOWLEDGE, CURRENT, ACCURATE AND COMPLETE BASED ON INFORMATION REASONABLE AVAILABLE TO US AS ON THE DATE OF PREPARATION OF THIS FORM. HOWEVER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OR HER OWN USE OF THE PRODUCT DESCRIBED HEREIN. SINCE THE ACTUAL USE BY OTHERS IS BEYOND OUR CONTROL, NO GUARANTEE, EXPRESSED OR IMPLIED, IS MADE BY US AS TO THE EFFECTS OF SUCH USE OR ON THE SAFETY OR TOXICITY OF THIS PRODUCT. NOR DO WE ASSUME ANY LIABILITY ARISING OUT OF THE USE BY OTHERS OF THE PRODUCT. NOR IS THE INFORMATION HEREIN TO BE CONSTRUED AS ABSOLUTELY COMPLETE, SINCE ADDITIONAL INFORMATION MAY BE NECESSARY OR DESIRABLE WHEN EXCEPTIONAL CONDITIONS OR CIRCUMSTANCES EXIST OR BECAUSE OF APPLICABLE LAWS OR REGULATIONS.

# MATERIAL SAFETY DATA SHEET
## Paint Thinner



| | |
|---|---|
| HEALTH | * 1 |
| FLAMMABILITY | 2 |
| PHYSICAL HAZ. | 0 |
| PPE | C |




Printed: 12/31/2008
Revision: 11/13/2008
Supercedes Revision: 09/25/2008
Date Created: 11/09/2005

## 1. Product and Company Identification

**Product Code:** 1677.8
**Product Name:** Paint Thinner
**Manufacturer Information**
**Company Name:** W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
**Phone Number:** (901)775-0100
**Emergency Contact:** 3E 24 Hour Emergency Contact (800)451-8346
**Information:** W.M. Barr Customer Service (800)398-3892
**Web site address:** www.wmbarr.com
**Preparer Name:** W.M. Barr and Company, Inc. (901)775-0100
**Synonyms**

CKPT94402, DKPT94403, EKPT94401, GKPT94002, GKPT94002P, GKPT94400, GPT1KS, QKPT94003, QKPT94203, QPT1KS, QPT720, QKPC94001, GKPT94002L, QKPC94001L, QKPT94003L

## 2. Composition/Information on Ingredients

| Hazardous Components (Chemical Name) | CAS # | Concentration | OSHA PEL | ACGIH TWA | ACGIH STEL |
|---|---|---|---|---|---|
| 1. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | 8052-41-3 | 95.0 -100.0 % | 500 ppm | 100 ppm | 250 ppm |

## 3. Hazards Identification

**Emergency Overview**

Caution! Combustible. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause fire. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from work site and all areas away from work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

**OSHA Regulatory Status:**

This material is classified as hazardous under OSHA regulations.

**Potential Health Effects (Acute and Chronic)**

Inhalation Acute Exposure Effects:
May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:
May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

**Signs and Symptoms Of Exposure**

Inhalation, ingestion, and dermal are possible routes of exposure.

**Medical Conditions Generally Aggravated By Exposure**

Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

## 4. First Aid Measures

**Emergency and First Aid Procedures**

Inhalation:
If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:
Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:
Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:
Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

If spontaneous vomiting is about to occur,place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

**Note to Physician**

Call your local poison control center for further information.

Inhalation: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation as required.

Ingestion: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

## 5. Fire Fighting Measures

| | |
|---|---|
| **Flammability Classification:** | Class II |
| **Flash Pt:** | >= 101.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash) |
| **Explosive Limits:** | LEL: ~ 0.5 % UEL: ~ 6 % |
| **Autoignition Pt:** | 446.00 F |

**Fire Fighting Instructions**

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

**Flammable Properties and Hazards**

Combustible Liquid.

**Hazardous Combustion Products**

Carbon dioxide, carbon monoxide, smoke, fumes, and/or unburned hydrocarbons.

**Extinguishing Media**

Use carbon dioxide, dry powder, or foam.

**Unsuitable Extinguishing Media**

No data available.

## 6. Accidental Release Measures

**Steps To Be Taken In Case Material Is Released Or Spilled**

Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

## 7. Handling and Storage

**Precautions To Be Taken in Handling**

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters, and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always use proper bonding and grounding procedures.

**Precautions To Be Taken in Storing**

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

## 8. Exposure Controls/Personal Protection

**Respiratory Equipment (Specify Type)**

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

**Eye Protection**

Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

**Protective Gloves**

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

**Other Protective Clothing**

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

**Engineering Controls (Ventilation etc.)**

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

**Work/Hygienic/Maintenance Practices**

A source of clean water should be available in the work area for flushing eyes and skin.
Do not eat, drink, or smoke in the work area.
Wash hands thoroughly after use.

## 9. Physical and Chemical Properties

| | |
|---|---|
| **Physical States:** | [ ] Gas [ X ] Liquid [ ] Solid |
| **Melting Point:** | No data. |
| **Boiling Point:** | 298.00 F - 400.00 F |
| **Autoignition Pt:** | 446.00 F |
| **Flash Pt:** | >= 101.00 F Method Used: Setaflash Closed Cup (Rapid Setaflash) |
| **Explosive Limits:** | LEL: ~ 0.5 % UEL: ~ 6 % |
| **Specific Gravity (Water = 1):** | 0.78 |
| **Vapor Pressure (vs. Air or mm Hg):** | 0.22 MM HG at 68.0 F |
| **Vapor Density (vs. Air = 1):** | 4.7 |
| **Evaporation Rate (vs Butyl Acetate=1):** | No data. |
| **Solubility in Water:** | No data. |

**Solubility Notes**

Very slightly soluble in cold water.

| | |
|---|---|
| **Percent Volatile:** | 100.0 % by weight. |
| **VOC / Volume:** | 784.0000 G/L |
| **Corrosion Rate:** | No data. |
| **pH:** | No data. |

**Appearance and Odor**

Water White / Free and Clear

# MATERIAL SAFETY DATA SHEET
## Paint Thinner



## 10. Stability and Reactivity

**Stability:** Unstable [ ] Stable [ X ]

**Conditions To Avoid - Instability**

No data available.

**Incompatibility - Materials To Avoid**

Incompatible with strong acids, alkalies, and oxidizers such as liquid chlorine and oxygen.

**Hazardous Decomposition Or Byproducts**

Decomposition may produce carbon monoxide and carbon dioxide.

**Hazardous Polymerization:** Will occur [ ] Will not occur [ X ]

**Conditions To Avoid - Hazardous Polymerization**

No data available.

## 11. Toxicological Information

No data available.

**Carcinogenicity/Other Information**

No data available.

| Hazardous Components (Chemical Name) | CAS # | NTP | IARC | ACGIH | OSHA |
|---|---|---|---|---|---|
| 1. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | 8052-41-3 | n.a. | n.a. | n.a. | n.a. |

## 12. Ecological Information

No data available.

## 13. Disposal Considerations

**Waste Disposal Method**

Dispose in accordance with federal, state, and local regulations.

## 14. Transport Information

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name** Paint Related Material, Not Regulated

**Additional Transport Information**

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

## 15. Regulatory Information

**US EPA SARA Title III**

| Hazardous Components (Chemical Name) | CAS # | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) | Sec.110 |
|---|---|---|---|---|---|
| 1. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits} | 8052-41-3 | No | No | No | No |

**SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:**

**Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

**Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

**Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

**Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

**EPA Hazard Categories:**

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard
[X] Yes [ ] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

## 16. Other Information

**Company Policy or Disclaimer**

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

# MATERIAL SAFETY DATA SHEET

**210B**
**21 00**

**DATE OF PREPARATION**
Jan 18, 2016

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
210B
**PRODUCT NAME**
MINWAX® WOOD FINISH®, Golden Oak
**MANUFACTURER'S NAME**
MINWAX Company
10 Mountainview Road
Upper Saddle River, NJ 07458

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (800) 523-9299<br>www.minwax.com |
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **58** | **64742-88-7** | **Med. Aliphatic Hydrocarbon Solvent** | | |
| | | ACGIH TLV | 100 PPM | 1.27 mm |
| | | OSHA PEL | 100 PPM | |
| **1** | **64742-47-8** | **Aliphatic Solvent** | | |
| | | ACGIH TLV | Not Available | 0.1 mm |
| | | OSHA PEL | Not Available | |
| **18** | **64742-52-5** | **Heavy Naphthenic Petroleum Oil** | | |
| | | ACGIH TLV | 5 mg/m3 as Mist | |
| | | OSHA PEL | 5 mg/m3 as Mist | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 2 |
| **Flammability** | 2 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
**SIGNS AND SYMPTOMS OF OVEREXPOSURE**
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
None generally recognized.
**CANCER INFORMATION**
For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | FLAMMABILITY CLASSIFICATION |
|---|---|---|---|
| 105 °F PMCC | 1.0 | 8.8 | Combustible, Flash above 99 and below 200 °F |

**EXTINGUISHING MEDIA**
Carbon Dioxide, Dry Chemical, Foam
**UNUSUAL FIRE AND EXPLOSION HAZARDS**
Closed containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
**SPECIAL FIRE FIGHTING PROCEDURES**
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**
DOL Storage Class II
**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**
Contents are COMBUSTIBLE. Keep away from heat and open flame.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.
To minimize the possibility of spontaneous combustion: control the accumulation of overspray; soak wiping rags and waste immediately after use in a water-filled, closed metal container; air dry filters outside, far from any combustible material and separated by bricks or other non-combustible spacers; dispose of all contaminated materials and waste properly. Consult OSHA 29 CFR 1910.107(b)(5) and NFPA 33, Chapter 8 (8-9) for the proper procedures.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.
**VENTILATION**
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
**RESPIRATORY PROTECTION**
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
**EYE PROTECTION**
Wear safety spectacles with unperforated sideshields.
**OTHER PRECAUTIONS**
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 7.05 lb/gal | 844 g/l |
| **SPECIFIC GRAVITY** | 0.85 | |
| **BOILING POINT** | 300 - 495 °F | 148 - 257 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 65% | |
| **EVAPORATION RATE** | Slower than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

| | | |
|---|---|---|
| 4.22 lb/gal | 506 g/l | Less Water and Federally Exempt Solvents |
| 4.22 lb/gal | 506 g/l | Emitted VOC |

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**
**CONDITIONS TO AVOID**
None known.
**INCOMPATIBILITY**
None known.
**HAZARDOUS DECOMPOSITION PRODUCTS**
By fire: Carbon Dioxide, Carbon Monoxide
**HAZARDOUS POLYMERIZATION**
Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| **64742-88-7** | **Med. Aliphatic Hydrocarbon Solvent** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | >5000 mg/kg |
| **64742-47-8** | **Aliphatic Solvent** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **64742-52-5** | **Heavy Naphthenic Petroleum Oil** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**
No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

**210B**

## SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

**US Ground (DOT)**

May be Classed as a Combustible Liquid for U.S. Ground.
UN1263, PAINT, 3, PG III, (ERG#128)

**Bulk Containers may be Shipped as:**

UN1263, PAINT, 3, PG III, (ERG#128)

**Canada (TDG)**

May be Classed as a Combustible Liquid for Canadian Ground.
UN1263, PAINT, 3, PG III, (ERG#128)

**IMO**

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, 3, PG III, (41 C c.c.), EmS F-E, S-E

**IMO**

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, 3, PG III, (41 C c.c.), EmS F-E, S-E

**IATA/ICAO**

UN1263, PAINT, 3, PG III

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# Material Safety Data Sheet

**Revision Date:** *19-Feb-2014* **Revision Number:** *8*

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** **SUPER SPEC EXTERIOR 100% ACRYLIC FLAT**
**Product Code** **183**
**Product Class** WATER THINNED PAINT
**Color** All

**Manufacturer**
Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
Phone: 855-724-6802
www.benjaminmoore.com

**Emergency Telephone Number(s)**
CHEMTREC: 800-424-9300

## 2. COMPOSITION INFORMATION ON COMPONENTS

**Hazardous Components**

| Chemical Name | CAS-No | Weight % (max) |
|---|---|---|
| Nepheline syenite | 37244-96-5 | 30 |
| Titanium dioxide | 13463-67-7 | 15 |
| Zinc oxide | 1314-13-2 | 5 |
| Diatomaceous earth | 61790-53-2 | 5 |
| Carbon black | 1333-86-4 | 1 |
| Distillates (petroleum), solvent-dewaxed heavy paraffinic | 64742-65-0 | 0.5 |

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.

**Appearance** liquid **Odor** little or no odor

**Potential Health Effects**

**Principal Routes of Exposure** Eye contact, skin contact and inhalation.

**Acute Effects**

**Eyes** May cause slight irritation.
**Skin** Substance may cause slight skin irritation.

| | |
|---|---|
| **Inhalation** | May cause irritation of respiratory tract. |
| **Ingestion** | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
| **Chronic Effects** | Repeated contact may cause allergic reactions in very susceptible persons. |

*See Section 11 for additional Toxicological information.*

**Aggravated Medical Conditions** None known

**HMIS** **Health:** 1* **Flammability:** 0 **Reactivity:** 0 **PPE:** -

**HMIS Legend**
0 - Minimal Hazard
1 - Slight Hazard
2 - Moderate Hazard
3 - Serious Hazard
4 - Severe Hazard
* - Chronic Hazard
X - Consult your supervisor or S.O.P. for "Special" handling instructions.

*Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.*

*Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer, has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.*

## 4. FIRST AID MEASURES

| | |
|---|---|
| **General Advice** | No hazards which require special first aid measures. |
| **Eye Contact** | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. |
| **Skin Contact** | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| **Inhalation** | Move to fresh air. If symptoms persist, call a physician. |
| **Ingestion** | Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary. |
| **Notes To Physician** | Treat symptomatically |

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Protective Equipment And Precautions For Firefighters** | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. |

| | |
|---|---|
| **Specific Hazards Arising From The Chemical** | Closed containers may rupture if exposed to fire or extreme heat. |
| **Sensitivity To Mechanical Impact** | No |
| **Sensitivity To Static Discharge** | No |
| **Flash Point Data** | |
| **Flash Point (°F)** | Not applicable |
| **Flash Point (°C)** | Not applicable |
| **Flash Point Method** | Not applicable |
| **Flammability Limits In Air** | |
| **Lower Explosion Limit** | Not applicable |
| **Upper Explosion Limit** | Not applicable |

**NFPA** **Health:** 1 **Flammability:** 0 **Instability:** 0 **Special:** Not Applicable

**NFPA Legend**
0 - Not Hazardous
1 - Slightly
2 - Moderate
3 - High
4 - Severe

*The ratings assigned are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.*

*Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at www.nfpa.org.*

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal Precautions** | Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. |
| **Environmental Precautions** | Prevent further leakage or spillage if safe to do so. |
| **Methods For Clean-Up** | Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. |
| **Other Information** | None known |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment. |
| **Storage** | Keep container tightly closed. Keep out of the reach of children. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Limits**

**Hazardous Components**

| Chemical Name | ACGIH | OSHA |
|---|---|---|
| Nepheline syenite | N/E | 5 mg/m$^3$ - TWA (nuisance dust) |
| Titanium dioxide | 10 mg/m$^3$ - TWA | 15 mg/m$^3$ - TWA |
| Zinc oxide | 2 mg/m$^3$ - TWA<br>10 mg/m$^3$ - STEL | 15 mg/m$^3$ - TWA total<br>5 mg/m$^3$ - TWA |
| Diatomaceous earth | N/E | - (80)/(% SiO2) mg/m$^3$ TWA<br>20 mppcf - TWA |
| Carbon black | 3.5 mg/m$^3$ - TWA | 3.5 mg/m$^3$ - TWA |
| Distillates (petroleum), solvent-dewaxed heavy paraffinic | N/E | N/E |

**Legend**
ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits
OSHA - Occupational Safety & Health Administration Exposure Limits
N/E - Not Established

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/Face Protection** Safety glasses with side-shields.
**Skin Protection** Protective gloves and impervious clothing
**Respiratory Protection** In case of insufficient ventilation wear suitable respiratory equipment.

**Hygiene Measures** Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** liquid
**Odor** little or no odor
**Density (lbs/gal)** 10.4 - 11.4
**Specific Gravity** 1.24 - 1.37
**pH** Not available
**Evaporation Rate** Not available
**Vapor Pressure** Not available
**Vapor Density** Not available
**Wt. % Solids** 45 - 55
**Vol. % Solids** 30 - 40
**Wt. % Volatiles** 45 - 55
**Vol. % Volatiles** 60 - 70
**VOC Regulatory Limit (g/L)** < 50
**Boiling Point (°F)** 212
**Boiling Point (°C)** 100
**Freezing Point (°F)** 32
**Freezing Point (°C)** 0
**Flash Point (°F)** Not applicable
**Flash Point (°C)** Not applicable
**Flash Point Method** Not applicable
**Upper Explosion Limit** Not applicable
**Lower Explosion Limit** Not applicable

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical Stability** | Stable under normal conditions. |
| **Conditions To Avoid** | Prevent from freezing |
| **Incompatible Materials** | No materials to be especially mentioned. |
| **Hazardous Decomposition Products** | None under normal use. |
| **Possibility Of Hazardous Reactions** | None under normal conditions of use. |

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

**Product**
No information available

**Component**

Nepheline syenite
Sensitization: No sensitizing effects known.

Titanium dioxide
LD50 Oral: > 10000 mg/kg (Rat)
LD50 Dermal: > 10000 mg/m³ (Rabbit)
LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)

Zinc oxide
LD50 Oral: > 8437 mg/kg (Rat)
LC50 Inhalation (Dust): > 5700 mg/m³ (Rat, 4 hr.)

Carbon black
LD50 Oral: > 15400 mg/kg (Rat)
LD50 Dermal: > 3000 mg/kg (Rabbit)

**Chronic Toxicity**

**Carcinogenicity**
*The information below indicates whether each agency has listed any ingredient as a carcinogen:*

| Chemical Name | ACGIH | IARC | NTP | OSHA Carcinogen |
|---|---|---|---|---|
| Titanium dioxide | | 2B - Possible Human Carcinogen | | Listed |
| Carbon black | | 2B - Possible Human Carcinogen | | Listed |

| Chemical Name | ACGIH | IARC | NTP | OSHA Carcinogen |
|---|---|---|---|---|
| Distillates (petroleum), solvent-dewaxed heavy paraffinic | | 1 - Human Carcinogen | | |

- Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

**Legend**
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicity Program
OSHA - Occupational Safety & Health Administration

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity Effects**

### Product

**Acute Toxicity to Fish**
No information available

**Acute Toxicity to Aquatic Invertebrates**
No information available

**Acute Toxicity to Aquatic Plants**
No information available

### Component

**Acute Toxicity to Fish**

Titanium dioxide
LC50: >1000 mg/L (Fathead Minnow - 96 hr.)

**Acute Toxicity to Aquatic Invertebrates**
No information available

**Acute Toxicity to Aquatic Plants**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method** Dispose of in accordance with federal, state, and local regulations. Dry, empty containers may be recycled in a can recycling program. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**ICAO / IATA** Not regulated

**IMDG / IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

**United States TSCA** Yes - All components are listed or exempt.
**Canada DSL** Yes - All components are listed or exempt.

### Federal Regulations

**SARA 311/312 hazardous categorization**

| | |
|---|---|
| Acute Health Hazard | No |
| Chronic Health Hazard | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % (max) |
|---|---|---|
| Zinc oxide | 1314-13-2 | 5 |

*This product may contain trace amounts of (other) SARA reportable chemicals. Contact the preparer for further information.*

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**
This product contains the following HAPs:

*This product may contain trace amounts of (other) HAPs chemicals. Contact the preparer for further information.*

### State Regulations

**California Proposition 65**

*This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.*

**State Right-to-Know**

| Chemical Name | Massachusetts | New Jersey | Pennsylvania | Louisiana | Rhode Island |
|---|---|---|---|---|---|
| Titanium dioxide | X | X | X | | X |
| Zinc oxide | X | X | X | | X |
| Diatomaceous earth | | X | | | X |
| Carbon black | X | X | X | | X |

**Legend**
X - Listed

## 16. OTHER INFORMATION

**WARNING!** If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

**Prepared By**

Product Stewardship Department
Benjamin Moore & Co.
101 Paragon Drive
Monvale, NJ 07645
855-724-6802

**Revision Date:** 19-Feb-2014
**Revision Summary** Not available

Disclaimer

**The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.**

**End of MSDS**

Pennzoil Products Company
*a subsidiary of Pennzoil Company*

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

MANUFACTURER'S NAME PENNZOIL COMPANY

ADDRESS P.O. BOX 2967
HOUSTON, TX 77252-2967

EMERGENCY TELEPHONE NO. (800) 546-6040

CAS NUMBER: MIXTURE
MSDS CODE: 013325

NFPA HAZARD IDENTIFICATION

| DEGREE OF HAZARD | | HAZARD RATINGS |
|---|---|---|
| | | 0-LEAST |
| HEALTH: | 0 | 1-SLIGHT |
| FIRE: | 1 | 2-MODERATE |
| REACTIVITY: | 0 | 3-HIGH |
| | | 4-EXTREME |

TRADE NAME: PENNZOIL® MULTI-PURPOSE 4000 SERIES GEAR LUBRICANT

SYNONYMS: 4092 SAE 80W-90, 4075, 4140 SAE 85W-140, 4096 SAE 80W-90

BY: ENVIRONMENTAL, SAFETY & HEALTH
(800) 546-6227

EFFECTIVE DATE: SEPTEMBER 02, 1998
SUPERSEDES DATE: ORIGINAL VERSION

## 2. INGREDIENTS

| COMPONENT NAME / CAS NUMBER | HAZARDOUS IN BLEND | PERCENTAGE MIN | PERCENTAGE MAX | COMPONENT EXPOSURE LIMIT | UNIT |
|---|---|---|---|---|---|
| BASE LUBRICATING OILS | | | | | |
| MIXTURE | NO | 85 TO | 95 | OSHA PEL | NO LIMIT |
| | | | | ACGIH TLV | NO LIMIT |
| POUR POINT DEPRESSANT | | | | | |
| MIXTURE | NO | < | 1 | OSHA PEL | NO LIMIT |
| | | | | ACGIH TLV | NO LIMIT |
| EXTREME PRESSURE ADDITIVE | | | | | |
| TRADE SECRET | NO | 5 TO | 10 | OSHA PEL | NO LIMIT |
| | | | | ACGIH TLV | NO LIMIT |
| VISCOSITY INDEX IMPROVER | | | | | |
| MIXTURE | NO | < | 1 | OSHA PEL | NO LIMIT |
| | | | | ACGIH TLV | NO LIMIT |

## 3. HEALTH INFORMATION AND PROTECTION

EYE CONTACT: THIS PRODUCT IS PRACTICALLY NON-IRRITATING TO THE EYES UPON DIRECT CONTACT. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR COMPONENTS.

SKIN CONTACT: AVOID SKIN CONTACT. THIS PRODUCT MAY CAUSE SLIGHT SKIN IRRITATION UPON DIRECT CONTACT. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR COMPONENTS. PROLONGED OR REPEATED CONTACT MAY RESULT IN CONTACT DERMATITIS WHICH IS CHARACTERIZED BY DRYNESS, CHAPPING, AND REDDENING. THIS CONDITION MAY MAKE THE SKIN MORE SUSCEPTIBLE TO OTHER IRRITANTS, SENSITIZERS, AND DISEASE. PROLONGED OR REPEATED CONTACT MAY RESULT IN OIL ACNE WHICH IS CHARACTERIZED BY BLACKHEADS WITH POSSIBLE SECONDARY INFECTION. SEE HEALTH DATA SECTION BELOW.

INHALATION: THIS PRODUCT HAS A LOW VAPOR PRESSURE AND IS NOT EXPECTED TO PRESENT AN INHALATION HAZARD AT AMBIENT CONDITIONS. CAUTION SHOULD BE TAKEN TO PREVENT AEROSOLIZATION OR MISTING OF THIS PRODUCT. THE PERMISSABLE EXPOSURE LIMIT (PEL) AND THRESHOLD LIMIT VALUE (TLV) FOR THIS PRODUCT AS OIL MIST IS 5 MG/M3. EXPOSURES BELOW 5 MG/M3 APPEAR TO BE WITHOUT SIGNIFICANT HEALTH RISK. THE SHORT-TERM EXPOSURE LIMIT FOR THIS PRODUCT AS AN OIL MIST IS 10 MG/M3.

INGESTION: DO NOT INGEST. THIS PRODUCT IS RELATIVELY NON-TOXIC BY INGESTION. THIS PRODUCT HAS LAXATIVE PROPERTIES AND MAY RESULT IN ABDOMINAL CRAMPS AND DIARRHEA. SEE HEALTH DATA SECTION BELOW.

HEALTH DATA: ON RARE OCCASIONS, PROLONGED AND REPEATED EXPOSURE TO OIL MIST POSES A RISK OF PULMONARY DISEASE SUCH AS CHRONIC LUNG INFLAMMATION. THIS CONDITION IS USUALLY ASYMPTOMATIC AS A RESULT OF REPEATED SMALL ASPIRATIONS. SHORTNESS OF BREATH AND COUGH ARE THE MOST COMMON SYMPTOMS.

THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER HAS CONCLUDED THAT HIGHLY REFINED MINERAL OILS ARE GROUP 3 SUBSTANCES, "NOT CLASSIFIABLE AS TO THEIR CARCINOGENICITY TO HUMANS," BASED ON INADEQUATE HUMAN AND INADEQUATE ANIMAL EVIDENCE. THIS SUBSTANCE IS NOT CARCINOGENIC ACCORDING TO THE OSHA HAZARD COMMUNICATION STANDARD.

## 4. EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER AND CONTINUE FLUSHING UNTIL IRRITATION SUBSIDES. IF MATERIAL IS HOT, TREAT FOR THERMAL BURNS AND TAKE VICTIM TO HOSPITAL IMMEDIATELY.

SKIN CONTACT: REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED AREA THOROUGHLY WITH SOAP AND WATER. IF REDNESS OR IRRITATION OCCURS, SEEK MEDICAL ATTENTION. IF MATERIAL IS HOT, SUBMERGE INJURED AREA IN COLD WATER. IF VICTIM IS SEVERELY BURNED, REMOVE TO A HOSPITAL IMMEDIATELY.

INHALATION: THIS MATERIAL HAS A LOW VAPOR PRESSURE AND IS NOT EXPECTED TO PRESENT AN INHALATION EXPOSURE AT AMBIENT CONDITIONS.

INGESTION: DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION.

## 5. PERSONAL HEALTH PROTECTION INFORMATION

EYE PROTECTION: EYE PROTECTION IS NOT REQUIRED UNDER CONDITIONS OF NORMAL USE. IF MATERIAL IS HANDLED SUCH THAT IT COULD BE SPLASHED INTO EYES, WEAR PLASTIC FACE SHIELD OR SPLASH-PROOF SAFETY GOGGLES.

SKIN PROTECTION: NO SKIN PROTECTION IS REQUIRED FOR SINGLE, SHORT DURATION EXPOSURES. FOR PROLONGED OR REPEATED EXPOSURES, USE IMPERVIOUS CLOTHING (BOOTS, GLOVES, APRONS, ETC.) OVER PARTS OF THE BODY SUBJECT TO EXPOSURE. IF HANDLING HOT MATERIAL, USE INSULATED PROTECTIVE CLOTHING (BOOTS, GLOVES, APRONS, ETC.). LAUNDER SOILED CLOTHES. PROPERLY DISPOSE OF CONTAMINATED LEATHER ARTICLES INCLUDING SHOES, WHICH CANNOT BE DECONTAMINATED.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION IS NOT REQUIRED UNDER CONDITIONS OF NORMAL USE. IF VAPOR OR MIST IS GENERATED WHEN THE MATERIAL IS HEATED OR HANDLED, USE AN ORGANIC VAPOR RESPIRATOR WITH A DUST AND MIST FILTER. ALL RESPIRATORS MUST BE NIOSH CERTIFIED. DO NOT USE COMPRESSED OXYGEN IN HYDROCARBON ATMOSPHERES.

VENTILATION: IF VAPOR OR MIST IS GENERATED WHEN THE MATERIAL IS HEATED OR HANDLED, ADEQUATE VENTILATION IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE MUST BE PROVIDED TO MAINTAIN CONCENTRATIONS BELOW THE SPECIFIED EXPOSURE OR FLAMMABLE LIMITS.

OTHER: CONSUMPTION OF FOOD AND BEVERAGE SHOULD BE AVOIDED IN WORK AREAS WHERE HYDROCARBONS ARE PRESENT. ALWAYS WASH HANDS AND FACE WITH SOAP AND WATER BEFORE EATING, DRINKING, OR SMOKING.

## 6. FIRE PROTECTION INFORMATION

FLASH POINT: NO DATA TEST METHOD: NO DATA

AUTOIGNITION TEMPERATURE: NO DATA TEST METHOD: NO DATA

FLAMMABLE LIMITS IN AIR % BY VOLUME LOWER: NO DATA UPPER: NO DATA

EXTINGUISHING MEDIA: USE DRY CHEMICAL, FOAM, OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES: WATER MAY BE INEFFECTIVE BUT CAN BE USED TO COOL CONTAINERS EXPOSED TO HEAT OR FLAME. CAUTION SHOULD BE EXERCISED WHEN USING WATER OR FOAM AS FROTHING MAY OCCUR, ESPECIALLY IF SPRAYED INTO CONTAINERS OF HOT, BURNING LIQUID.

UNUSUAL FIRE AND EXPLOSIVE CONDITIONS: DENSE SMOKE MAY BE GENERATED WHILE BURNING. CARBON MONOXIDE, CARBON DIOXIDE, AND OTHER OXIDES MAY BE GENERATED AS PRODUCTS OF COMBUSTION.

## 7. REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: NONE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

INCOMPATIBILITY MATERIALS TO AVOID: MAY REACT WITH STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

## 8. ENVIRONMENTAL PRECAUTIONS

| | |
|---|---|
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: | CONSULT HEALTH EFFECT INFORMATION IN SECTION III, PERSONAL HEALTH PROTECTION INFORMATION IN SECTION V, FIRE PROTECTION INFORMATION IN SECTION VI, AND REACTIVITY DATA IN SECTION VII. NOTIFY APPROPRIATE AUTHORITIES OF SPILL. CONTAIN SPILL IMMEDIATELY. DO NOT ALLOW SPILL TO ENTER SEWERS OR WATERCOURSES. REMOVE ALL SOURCES OF IGNITION. ABSORB WITH APPROPRIATE INERT MATERIAL SUCH AS SAND, CLAY, ETC. LARGE SPILLS MAY BE PICKED UP USING VACUUM PUMPS, SHOVELS, BUCKETS, OR OTHER MEANS AND PLACED IN DRUMS OR OTHER SUITABLE CONTAINERS. |
| WASTE DISPOSAL METHOD: | ALL DISPOSALS MUST COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. THE MATERIAL, IF SPILLED OR DISCARDED, MAY BE A REGULATED WASTE. REFER TO STATE AND LOCAL REGULATIONS. CAUTION! IF REGULATED SOLVENTS ARE USED TO CLEAN UP SPILLED MATERIAL, THE RESULTING WASTE MIXTURE MAY BE REGULATED. DEPARTMENT OF TRANSPORTATION (DOT) REGULATIONS MAY APPLY FOR TRANSPORTING THIS MATERIAL WHEN SPILLED. WASTE MATERIAL MAY BE LANDFILLED OR INCINERATED AT AN APPROVED FACILITY. MATERIALS SHOULD BE RECYCLED IF POSSIBLE. |

## 9. MISCELLANEOUS

| | |
|---|---|
| HANDLING AND STORAGE REQUIREMENTS: | DO NOT TRANSFER TO UNMARKED CONTAINERS. STORE IN CLOSED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, OR OXIDIZING MATERIALS. FIRE EXTINGUISHERS SHOULD BE KEPT READILY AVAILABLE. SEE NFPA 30 AND OSHA 1910.106--FLAMMABLE AND COMBUSTIBLE LIQUIDS. |
| ADDITIONAL INFORMATION: | THIS MIXTURE MAY BE FORMULATED IN PART WITH COMPONENTS PURCHASED FROM OTHER COMPANIES. IN MANY INSTANCES, ESPECIALLY WHEN PROPRIETARY OR TRADE SECRET MATERIALS ARE USED, PENNZOIL COMPANY MUST RELY UPON THE HAZARD EVALUATION OF SUCH COMPONENTS SUBMITTED TO PENNZOIL BY THAT PRODUCT'S MANUFACTURER OR IMPORTER.<br><br>THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY SARA TITLE III, SECTION 313 REPORTABLE CHEMICALS AT OR GREATER THAN 1.0% (0.1% FOR CARCINOGENS).<br><br>ALL INGREDIENTS OF THIS PRODUCT ARE LISTED ON THE TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY. |

DOT: NOT REGULATED.

# 10. PHYSICAL PROPERTIES

| | | | |
|---|---|---|---|
| BOILING POINT: | > 800 F | PERCENT VOLATILE: | NO DATA |
| MELTING POINT: | -10 F | VAPOR DENSITY (AIR=1): | NO DATA |
| APPEARANCE: | CLEAR LIQUID | EVAPORATION RATE (EE=1): | NO DATA |
| ODOR: | PETROLEUM ODOR | SPECIFIC GRAVITY: | 0.89 |
| VAPOR PRESSURE: | NO DATA | MOLECULAR WEIGHT: | NO DATA |
| SOLUBILITY: | INSOLUBLE IN WATER | | |

DISCLAIMER OF WARRANTY:

THE INFORMATION CONTAINED HEREIN IS BASED UPON DATA AVAILABLE TO US, AND REFLECTS OUR BEST PROFESSIONAL JUDGEMENT. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF SUCH DATA, THE RESULTS TO BE OBTAINED FROM THE USE THEREOF, OR THAT ANY SUCH USE DOES NOT INFRINGE ANY PATENT. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS OF USE BEYOND OUR CONTROL AND WITH WHICH WE MAY BE UNFAMILIAR, WE DO NOT ASSUME ANY RESPONSIBILITY FOR THE RESULTS OF SUCH APPLICATION. THIS INFORMATION IS FURNISHED UPON THE CONDITION THAT THE PERSON RECEIVING IT SHALL MAKE HIS OWN DETERMINATION OF THE SUITABILITY OF THE MATERIAL FOR HIS PARTICULAR PURPOSE.

MSDS Sheet 7605

MSDS 7605
7585: Air Tool Oil 4 Oz Bottle
7605: Air Tool Oil Quart
MSDS Last updated: 10/10/2005

June 9, 2005

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

---

PRODUCT NAME: Marvel Air Tool Oil
PRODUCT CODE: MM080, MM085, MM85R, MM086, MM088R
MM089 MM
CHEMICAL FAMILY; Petroleum Distillates
CHEMICAL NAME: Complex Mixture of Hydrocarbons
FORMULA: Mixture
MANUFACTURER EMERGENCY TELEPHONE NUMBERS
Marvel Oil Company, Inc. Transportation;
5655 W. 73rd Street CHEM-TREC: 800-424-9300
Chicago, IL 60638 Medical:
Phone: 708-563-3766 ROCKY MTN POISON CTR; 800-332-3073
Fax; 708-563-3715

## 2. POSITION/INFORMATION ON INGREDIENTS

---

| COMPONENT | CAS NUMBER | CONCENTRATION (wt %) |
|---|---|---|
| Naphthenic Hydrocarbons | 64742-52-5 | 70 - 80 |
| Mineral Spirits | 08052-41-3 | 20 - 30 |
| Chlorinated Hydrocarbons | 00095-50-1 | 0 - 1 |

EXPOSURE LIMITS 8 hr. TWA (ppm)

| | OSHA PEL | ACGIH TLV |
|---|---|---|
| Naphthenic Hydrocarbons | 5 as oil mist | 5 as oil mist |
| Mineral Spirits | 100 | 100 |
| Chlorinated Hydrocarbons | 25 | 25 |

## 3. HAZARDS IDENTIFICATION

---

POTENTIAL HEALTH EFFECTS

INHALATION; Can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even asphyxiation.

INGESTION; Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into lungs can cause pneumonitis which can be fatal.

SKIN CONTACT: Prolonged or repeated contact can cause moderated irritation, defatting or dermatitis.

EYE CONTACT; Can cause severe irritation, redness, tearing or blurred vision.

## 4. FIRST AID MEASURES;

---

EYE;  Flush with large amounts of water, lifting upper and lower eyelids occasionally. Get medical attention.

SKIN; Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder before re-use.

INHALATION; Remove person to fresh air. If breathing difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm and quiet. Call a physician.

INGESTION; Do not induce vomiting. Keep person quiet and warm. Get medical attention. Aspiration of material into lungs can cause chemical pneumonitis which can be fatal.

5. FIRE FIGHTING MEASURES;

---

FLASH POINT:  128 F  (53 C) TCC

EXTINGUISHING MEDIA; Carbon dioxide, dry chemical, foam.

SPECIAL FIRE FIGHTING PROCEDURES; Wear self-contained breathing apparatus with full face piece operated with positive pressure-demand when fighting large fires.

6. ACCIDENTAL RELEASE MEASURES

---

SPILL OR LEAK PROCEDURES: Ventilate area. Remove sources of ignition. Prevent

entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Absorb small amounts on inert material for disposal.

7. HANDLING AND STORAGE;

---

STORAGE TEMPERATURE (MIN./MAX.): -40 F  (-40 C) / 120 F  (49 C)

SHELF LIFE; 3 years minimum when the original container is kept tightly closed and properly stored.

SPECIAL SENSITIVITY;  None

HANDLING AND STORAGE PRECAUTIONS; Empty containers may be dangerous since fumes may still exist. Observe precautions given for this product as stated in this document.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION;

---

EYE PROTECTION REQUIREMENTS;  Splash goggles.

SKIN PROTECTION REQUIREMENTS; Wear chemically resistant gloves.

RESPIRATOR/VENTILATION REQUIREMENTS; Provide sufficient ventilation to avoid exposure levels above the establish TLV's.

EXPOSURE LIMITS; Not established for product as whole.

| | | |
|---|---|---|
| Mineral Spirits | NIOSH | 100 ppm TWA |

| | | |
|---|---|---|
| Oil Mist | OSHA | 5 mg/m3 |

9. PHYSICAL AND CHEMICAL PROPERTIES;

---

PHYSICAL FORM; Thin liquid
COLOR: Red
ODOR; Petroleum
BOILING POINT: Not determined
MELT/FREEZE POINT: -60 F (-51 C)
PH: Not applicable
SOLUBILITY IN WATER: Insoluble
SPECIFIC GRAVITY: 0.876 @ 60 F (15.6 C)
% VOLATILE BY WEIGHT: 25 %
VAPOR PRESSURE: Not determined
VAPOR DENSITY: Not determined

10. REACTIVITY:

---

STABILITY: Stable
HAZARDOUS POLYMERIZATION; Will not occur.
INCOMPATIBILITIES; Strong oxidizing agents.
DECOMPOSITION PRODUCTS; Carbon monoxide, carbon dioxide and hydrocarbons.

11. TOXICOLOGICAL INFORMATION;

---

ACUTE INHALATION; Aspiration into lungs can cause pneumonitis which can be fatal.
CHRONIC INHALATION; Not determined.
ACUTE SKIN CONTACT: Prolonged or repeated contact can cause moderate irritation, defatting or dermatitis.

CHRONIC SKIN CONTACT; Not determined.
ACUTE EYE CONTACT: Can cause severe irritation, redness, tearing or blurred vision.

12. ECOLOGICAL INFORMATION;

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No data available.

13. DISPOSAL CONSIDERATION;

---

Ignitable hazardous waste, EPA Hazardous Waste Number D001
WASTE DISPOSAL METHOD: Dispose of product in accordance with all local, state and federal laws and regulations.

14. TRANSPORT INFORMATION

---

DOT INFORMATION;

| | | |
|---|---|---|
| PROPER SHIPPING NAME: | Non Bulk | Not regulated |
| | Bulk | Petroleum distillates, n.o.s. |
| TECHNICAL SHIPPING NAME: | | Fuel and oil additive |
| HAZARD CLASS: | Non Bulk | ORM-D |
| | Bulk | Class 3 |

| | | |
|---|---|---|
| UN NUMBER: | | UN 1268 |
| PRODUCT RQ (lbs): | | None |
| LABEL: | Non Bulk | ORM-D |
| | Bulk | Flammable Liquid |
| PLACARD; | Non Bulk | None |
| | Bulk | Flammable Liquid |
| FREIGHT CLASS BULK; | | PG III |
| FREIGHT CLASS PACKAGE; | | None |
| PRODUCT LABEL: | | None |

15. REGULATORY INFORMATION;

---

TSCA STATUS; All ingredients listed.

CERCLA REPORTABLE QUANTITY; None

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312
HAZARD CATEGORIES

| | |
|---|---|
| Acute Health | Yes |
| Chronic Health | Yes |
| Fire | Yes |
| Reactive | No |
| Sudden Release of Pressure | No |

SECTION 313

| CHEMICAL NAME | CAS NUMBER | CONCENTRATION |
|---|---|---|
| Ortho-dichlorobenzene | 00095-50-1 | 0-0.25 % |

RCRA STATUS: If discarded in its purchased form, this product would be an ignitable waste with an EPA Hazardous Waste Number of D001. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product should be classified as a hazardous waste. (40CFR261.20-24)

CANADIAN STATUS; All materials contained in this product are listed on the Canadian Domestic Substances List.

EUROPEAN UNION; All materials contained in this product are listed on EINECS.

STATE REGULATORY INFORMATION
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

| COMPONTENT/ CAS NUMBER | CONCENTRATION | STATE CODE |
|---|---|---|

p-dichlorobenzene less than 150 ppm CA
00106-46-7
CA = Material known to the state of California to cause cancer and/or birth defects. (California Proposition 65).

16. OTHER INFORMATION;

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HMIS CLASSIFICATION Health 2
Flammability 2
Reactivity 0
PPI B

NFPA RATING Health 2
Fire 2
Reactivity 0
Special None
REASON FOR ISSUE Add revised stock numbers
PREPARED BY; Richard P. Kelly
TITLE: Technical Manager
APPROVAL DATE: June 9, 2005
SUPERCEDES DATE November 4, 2004
REVISION NUMBER #06

This information is to the best of Marvel Oil Company's knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

Msdsmm080-2.doc

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Product name** | **Never-Seez Regular Grade Cmpd.** |
| **MSDS name** | Never-Seez Regular Grade Compound Series |
| **Product name(s) covered** | See Section 16 for Product Names Covered. |
| **CAS #** | Mixture |
| **Product use** | Lubricants |
| **Generic description** | Petroleum Based Grease Formulations |
| **Manufacturer** | Bostik, Inc.<br>11320 Watertown Plank Rd<br>Wauwatosa, WI 53226 USA |
| **24 hour emergency assistance** | Telephone: 1-800-227-0332<br>(Outside U.S.) 1-703-527-3887 |
| **General assistance** | Telephone: 1-800-843-0844 |
| **MSDS assistance** | Telephone: 1-800-843-0844 |

## 2. Hazards Identification

| | |
|---|---|
| **Emergency overview** | Contact with this material can cause irritation to the skin, eyes and mucous membranes. Irritating fumes and gases may be released upon thermal processing or during combustion. Primary Routes of Exposure: eyes, skin, and inhalation. |
| **Potential health effects** | |
| **Eyes** | This product may cause irritation to the eyes. |
| **Skin** | This product may cause irritation to the skin. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. |
| **Inhalation** | Fumes released during thermal processing may irritate respiratory system, skin and eyes. |
| **Ingestion** | Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
| **Target organs** | Skin. |

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|---|---|---|
| Copper Powder | 7440-50-8 | 7 - 13 |
| Aluminum | 7429-90-5 | 1 - 5 |

## 4. First Aid Measures

| | |
|---|---|
| **First aid procedures** | |
| **Eye contact** | Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice. |
| **Skin contact** | For skin contact flush with large amounts of water while removing contaminated clothing. If skin irritation persists, call a physician. |
| **Inhalation** | Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. If the affected person is not breathing, apply artificial respiration. Call a physician if symptoms develop or persist. |
| **Ingestion** | If the material is swallowed, get immediate medical attention or advice. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without medical advice. |
| **Notes to physician** | Provide general supportive measures and treat symptomatically. Contact Bostik to determine whether any additional information is available. |
| **Medical conditions aggravated by exposure** | Dermatitis. |

## 5. Fire Fighting Measures

| | |
|---|---|
| **Extinguishing media** | |
| **Suitable extinguishing media** | Dry chemical, foam, carbon dioxide, water fog. |
| **Fire fighting equipment/instructions** | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| **Dust explosion hazard** | None Known |
| **Sensitivity to static discharge** | None Known |
| **Unusual fire & explosion hazards** | Product may burn and produce toxic gases in a fire. |
| **Flash point** | 475 °F (246.1 °C) |

## 6. Accidental Release Measures

| | |
|---|---|
| **Emergency action** | Wear appropriate protective equipment and clothing during clean-up. Do not allow product to enter sewer or waterways. Follow all Local, State, Federal and Provencial regulations for disposal. |
| **Spill or leak procedure** | Scrape up grease and deposit into appropriate containers for disposal. |
| **Containment procedures** | Stop source of leak if possible. Contain the discharged material. |
| **Reporting** | See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements. |

## 7. Handling and Storage

| | |
|---|---|
| **Handling** | Wear appropriate protective equipment to avoid contact with skin and eyes. |
| **Storage** | Keep tightly closed in a dry and cool place. |
| **Empty container precaution** | Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur. |

## 8. Exposure Controls / Personal Protection

| | |
|---|---|
| **Engineering controls** | Ventilation is not normally required. |
| **Personal protective equipment** | |
| **Eye protection** | Wear safety glasses with side shields. |
| **Skin and body protection** | Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. |
| **Respiratory protection** | Not normally needed. Special applications may necessitate the use of more stringent respiratory protection equipment. |

## 9. Physical & Chemical Properties

| | |
|---|---|
| **Target solids** | 100 % |
| **Density** | 1.19 g/cc |
| **Odor** | Petroleum |
| **Color** | Grey |
| **Physical state** | Paste |
| **Freeze protect** | No |
| **VOC (Volatile Organic Compounds)** | 0 lb/gal |

## 10. Chemical Stability & Reactivity Information

| | |
|---|---|
| **Hazardous reactions/decomposition products** | Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. |
| **Hazardous polymerization** | Will not occur. |
| **Stability** | Stable under normal conditions. |

## 11. Toxicological Information

**Chronic effects** Chronic exposure may cause dermatitis.

**Carcinogenicity** If this product contains any carcinogens, they will be noted below:

## 12. Ecological Information

**Ecotoxicological information** No data available for this product.

## 13. Disposal Considerations

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

**Waste disposal** Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

## 14. Transport Information

**DOT**

Not regulated as hazardous goods.

**IATA**

**Basic shipping requirements:**

| | |
|---|---|
| **Proper shipping name** | Environmentally Hazardous Substance, Solid, N.O.S. (COPPER) |
| **Hazard class** | 9 |
| **UN number** | UN3077 |
| **Packing group** | III |


**IMDG**

**Basic shipping requirements:**

| | |
|---|---|
| **Proper shipping name** | Environmentally Hazardous Substance, Solid, N.O.S. (COPPER) |
| **Hazard class** | 9 |
| **UN number** | UN3077 |
| **Packing group** | III |
| **Marine pollutant** | Copper Powder |


## 15. Regulatory Information

This MSDS is prepared and distributed pursuant to the Federal Hazard Communication Standard, 29 CFR 1910.1200

**Federal regulations** All components are on the U.S. EPA TSCA Inventory List.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

| | | |
|---|---|---|
| Aluminum | 7429-90-5 | ALUMINUM (FUME OR DUST) US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance |
| Copper Powder | 7440-50-8 | COPPER US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance |

**State regulations** If this product contains any California Proposition 65 chemicals at reportable levels they will be listed below:

**Restriction of Hazardous Substances (RoHS)** The product(s) covered by this (M)SDS do not contain or are under the prescribed levels of prohibited substances listed under 2011/65/EU Hazardous Substances Restricted or Prohibited in Electrical Equipment, including lead (CAS # 7439-92-1), mercury (CAS # 7439-97-6), cadmium (CAS # 7440-43-9), hexavalent chromium (CAS # 7440-47-3), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

**International regulations**
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

**Substances of Very High Concern (SVHC)**
The product(s) covered by this (M)SDS do not include any of the substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA on the following dates:

- October 28, 2008
- August 31, 2009
- January 13, 2010
- March 8, 2010
- June 18, 2010
- October 14, 2010
- December 15, 2010
- June 20, 2011
- December 19, 2011
- February 17, 2012
- June 18, 2012
- December 19, 2012

**HMIS Ratings**
Health: 1*
Flammability: 1
Physical hazard: 0
Personal protection: X

**SARA 311/312 HAZARD CATEGORIES**
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**WHMIS status**
Non-controlled

## 16. Other Information

**Product name(s) covered**
BNRG1-BTC12 - REG GRADE 12/1#BT NSBT16
BNRG1-CTGC12 - REG GRADE 12/1# CTG NSC1
BNRG1-FTC12 - REG GRADE 12/1#FT NS160
BNRG130K1 - REG GRADE 130#K NS130B
BNRG1TC150 - REG GRADE 150/1OZ TUBE NS10
BNRG425D1 - REG GRADE 425#D NS425B
BNRG425DL1 - REG GRADE 425#DL NS425B
BNRG42PP1 - REG GRADE 42#PP NS42B
BNRG42PS1 - REG GRADE 42#PS NS42B
BNRG4BTC24 - REG GRADE 24/4OZ BT NSBT4
BNRG4TC24 - REG GRADE 24/4OZ TUBE NSB4
BNRG8-FTC4 - REG GRADE 4/8#FT NS168
BNRG8BTC12 - REG GRADE 12/8OZ BT NSBT8
BNRGETC100 - REG GRADE 100/7.5GR PIPETTES

**Disclaimer**
The data in this MSDS has been compiled from publicly available sources. This data relates only to the designated product and not to the use of said product in combination with other materials. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Responsibility for proper precautions and safe use of the product lies with the user. All data in this MSDS is typical of the product as a whole, and does not represent any individual lot or batch, therefore, Bostik, Inc. makes no warranty about the accuracy of the data herein and assumes no liability for the use of such data. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

**Further information**
If there are any characters following an individual item number, they are just designations for the various types of packaging that are available for this product. For example, a product "G12345-XX" is item number "G12345" with a packaging designation of "XX". These characters do not indicate a different product nor a different regulatory, health, safety and/or environmental status. This document covers the item numbers listed above for all of their packaging types.

**Issue date**
02/14/2013

| | |
|---|---|
| **Prepared by** | Bostik, Inc. Regulatory Affairs |
| **Supercedes** | 02/07/2013 |
| **This data sheet contains changes from the previous version in section(s):** | Regulatory Information: Restriction of Hazardous Substances (RoHS) |

# Material Safety Data Sheet
# Product name: Nickel–Cadmium aircraft battery / cell

## 1. IDENTIFICATION

**Product**

**Product name**
This document is applicable for all Saft Nickel-Cadmium (Ni-Cd) batteries and cells

**Trade name**
VO, VP, VHP, VXP, Delta Plus, ULM®, AMFB

**Supplier**


**Saft America Inc.**
711 Gil Harbin Industrial Blvd.
Valdosta, GA 31601- USA
Phone: +1 (229)-247-2331
Fax: +1 (229)-245-2890

**Saft Bordeaux**
111/113 boulevard Alfred Daney
33074 BORDEAUX – France
Phone: +33 (0)5 57 10 64 00
Fax: +33 (0)5 57 10 65 70


**For Chemical Emergency**
Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC - Day or night
Tel: +1 (800) 424 93000

## 2. CHEMICAL COMPOSITION

| Ingredients | CASH # | EINECS# | Quantity |
|---|---|---|---|
| Cadmium (as Cadmium and Cadmium hydroxide) | 7440-43-9<br>21041-95-2 | 231-152-8<br>244-168-5 | 8% - 16% |
| Nickel ( as Nickel and Nickel dihydroxide) | 7440-02-0<br>12054-48-7 | 231-111-4<br>235-008-5 | 19% - 36% |
| Electrolyte solution (18-30% Potassium hydroxide) | 1310-58-3 | 215-181-3 | 13% - 19% |
| Cobalt (as Cobalt hydroxide) | 21041-93-0 | 244-166-4 | ~ 1% |
| Copper | 7440-50-8 | 231-159-6 | 9% - 11% |
| Polyamide 11 | | | 11% - 13% |
| Steel | | | 22% - 34% |

## 3. HEALTH HAZARD IDENTIFICATION

| Ingredients | | | | Classification* | | |
|---|---|---|---|---|---|---|
| **Name** | **Chemical** | **CASH #** | **EINECS#** | **Symbol** | **Risk phrase** | **Safety phrase** |
| Cadmium hydroxide | $Cd(OH)_2$ | 21041-95-2 | 244-168-5 | Xn<br>N | R20/21/22<br>R50/53 | S2, S60, S61 |
| Nickel dihydroxide | $Ni(OH)_2$ | 12054-48-7 | 235-008-5 | Carc. Cat3<br>Xn<br><br>N | R40<br>R20/22<br>R43<br>R50/53 | S2, S22, S36, S60; S61 |
| Potassium hydroxide | K(OH) | 1310-58-3 | 215-181-3 | Xn<br>C | R22<br>R35 | $S^{1/2}$, S26, S36/37/39, S45 |
| Cobalt hydroxide | $Co(OH)_2$ | 21041-93-0 | 244-166-4 | Xn<br>Xi | R20/21/22<br>R36/R37/R38<br>R43 | S24, S26<br>S36/37; S39 |

*Classification according to the Annex I of Directive 67/548/EEC

**Effects of Overexposure**

| | |
|---|---|
| **Eye Effects** | Contact with electrolyte solution inside battery causes very rapid, severe damage. Extremely corrosive to eye tissues. May result in permanent blindness. |
| **Skin Effects** | Contact with electrolyte solution inside battery may cause serious burns to skin tissues. Contact with nickel compounds may cause skin sensitization, resulting in chronic eczema or nickel itch. |
| **Ingestion** | Ingestion of electrolyte solution causes tissue damage to throat area and gastro/respiratory tract. Ingestion of cadmium and/or nickel compounds causes nausea and intestinal disorders. |
| **Inhalation** | Dust generated during activation procedures may cause varying degrees of irritation to the nasal mucous membranes and respiratory tract tissues varying from mild irritation of nasal mucous membranes to damage of lung tissues proper. Inhalation of cadmium compounds may cause dry throat, cough, headache, vomiting, chest pain, and/or chills. Excessive overexposure may result in pulmonary oedema, breathing difficulty, and prostration. |
| **Carcinogenicity** | NIOSH recommends that nickel and cadmium be treated as occupational carcinogens. |

**Material Safety Data Sheet**
**Product name: Nickel–Cadmium aircraft battery / cell**

## 4. FIRST AID MEASURES

**Battery Electrolyte**

| | |
|---|---|
| **Eye Contact** | Flush with plenty of water for at least 20 minutes. Get immediate medical attention. |
| **Skin Contact** | Remove contaminated clothing and flush affected areas with plenty of water for at least 20 minutes. |
| **Ingestion** | Do not induce vomiting. Dilute by giving large volumes of water or milk. Get immediate medical attention. Do not give anything by mouth to an unconscious person. |
| **Inhalation** | Move to an outdoor location. Give oxygen or artificial respiration if needed. Get immediate medical attention. |

**Nickel and Cadmium Compounds**

| | |
|---|---|
| **Skin contact** | Wash with cold water and soap for 15 minutes. |

## 5. FIRE AND EXPLOSION HAZARDS

**Extinguishing Media:** $CO_2$, sand

| | Melting Point | Boiling Point |
|---|---|---|
| Cadmium | 608°F / 320°C | 1410°F / 766°C |
| Cadmium hydroxide | N/A | 2838°F / 1559°C (sublimes)<br>4653°F / 2567°C |
| Copper | 19891°F / 1083°C | |
| Nickel | 2645°F / 1452°C | 4950°F / 2732°C |
| Nickel dihydroxide | N/A | 445°F / 229°C (Decomposes to NiO) |
| Case material : Polamyde 11 | 370-374°F / 188-190°C | N/A (burns may release toxic $NO_2$, fumes) |

**Special Fire Fighting Procedures**

Use self-contained breathing apparatus to avoid breathing toxic fumes. Wear protective clothing and equipment to prevent potential body contact with electrolyte solution or mixture of water and electrolyte solution**. Disconnect or cut all cables to and from battery – especially ground connection.**

**Unusual Fire and Explosion Hazards**

Electrolyte solution is corrosive to all human tissues. It will react violently with many organic chemicals, especially nitrocarbons and chlorocarbons. Electrolyte solution reacts with zinc, aluminium, tin and other active materials releasing flammable hydrogen gas.

## 6. ACCIDENTAL RELEASE MEASURES

**Electrolyte Solution Spills**

| | |
|---|---|
| **Small (up to 19 liters / 5 gallons** | Flush with water and neutralize with dilute citric acid. |
| **Large** | Contain material in suitable containers or holding area. DO NOT allow material to enter sewers, streams, or storm conduits. Recover material with vacuum truck and dispose of properly. Reportable Quantity: 453.6 kg / 1000 pounds. 40 CFR-117.13. |

## 7. HANDLING AND STORAGE

The cells and the batteries may be highly charged and are capable of high energy discharge. Handle cells with care to avoid shorting or misuse that will result in a rapid, uncontrolled electrical, chemical, or heat energy release.

Do not transport activated batteries without vent caps in place.

When removing battery from service, visually inspect for leakage prior to handling. If leakage has occurred follow Spill Management Procedures.

Store in sealed packaging and in normal vertical position at temperature +20°C (68°F) ± 15°C (± 27°C) and humidity inferior at 70%.

Keep away from exposed flames, sparks, and other ignition sources.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure control**

| Ingredients | CAS # | EINECS# | Exposures Limits |
|---|---|---|---|
| Cadmium (as Cadmium and Cadmium hydroxide) | 7440-43-9<br>21041-95-2 | 231-152-8<br>244-168-5 | 5.0 mcg/$m^3$ dust – OSHA<br>0.05 mg/$m^3$ ACGIH CEILING-Fume |
| Nickel ( as Nickel and Nickel dihydroxide) | 7440-02-0<br>12054-48-7 | 231-111-4<br>235-008-5 | 1 mg/$m^3$ – OSHA |
| Electrolyte solution (18-30% Potassium hydroxide) | 1310-58-3 | 215-181-3 | 2 mg/$m^3$ ACGIH CEILING-Air |
| Cobalt (as Cobalt hydroxide) | 21041-93-0 | 244-166-4 | 0.1 mg/$m^3$ OSHA |
| Copper | 7440-50-8 | 231-159-6 | 1 mg/ $m^3$ dust - OSHA |

**Material Safety Data Sheet**
**Product name: Nickel–Cadmium aircraft battery / cell**

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION (continued)

**Personnal protection**

Perform battery activation procedures in a well-ventilated area. Battery operating areas must be well ventilated for removal of potentially dangerous and harmful gases generated. Normal reactions inside the battery liberate explosive and flammable hydrogen gas.

| | |
|---|---|
| **Respiratory Protection** | Use NIOSH approved mist respirator during activation and actual usage to maintain exposure levels below the TWA. |
| **Eye Protection** | Use splash goggles or face shield whenever handling a battery. |
| **Hand Protection** | If exposure to electrolyte solution or dried salts is likely, use any water-insoluble, non-permeable glove, i.e., synthetic rubber. DO NOT use leather or fabric gloves. |
| **Other protective equipment** | Rubber apron or rainwear, or equivalent if exposure to electrolyte solution is likely |

## 9. PHYSICAL PROPERTIES

| | | | |
|---|---|---|---|
| Boiling Point: | Not Applicable | Melting Point: | Not applicable |
| Vapor Pressure: | 2 mm Hg at 68°F / 20°C | Vapor Density: | Not applicable |
| Specific Gravity: | 1.17 - 1.30 (electrolyte) | Evaporation Rate: | Not Determined |
| Solubility in water: | Electrolyte solution is completely soluble. | Remainder: | is insoluble |

## 10. STABILITY AND REACTIVITY

**CAUTION: NEVER ACTIVATE OR TOP OFF WITH ACID**

| | |
|---|---|
| **Incompatibilities** | Aluminium, zinc, tin and other active metals, acid, chlorinated and aromatic hydrocarbons, nitrocarbons, halocarbons. Tricholorethylene will react with electrolyte solution to form dichloroacetylene which is spontaneously combustible. |
| **Hazardous Decomposition Products** | Nickel compounds, cadmium compounds, and potassium hydroxide. |

Note that normal reactions inside battery liberate explosive and flammable hydrogen gas. Do not seal battery from atmosphere. Hazardous Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

| Ingredients | CAS # | EINECS# | $LD_{50}$ (Oral, Rat) |
|---|---|---|---|
| Cadmium hydroxide | 21041-95-2 | 244-168-5 | Not available |
| Nickel dihydroxide | 12054-48-7 | 235-008-5 | 1600 mg/kg |
| Potassium hydroxide | 1310-58-3 | 215-181-3 | 365 mg/kg |
| Cobalt hydroxide | 21041-93-0 | 244-166-4 | Not available |

## 12. ECOLOGICAL INFORMATION

The electrolyte solution (18-30% Potassium Hydroxide) is very toxic to aquatic organisms. It may cause long-term adverse effects in the aquatic environment.

## 13. DISPOSAL CONSIDERATIONS

Nickel-Cadmium aircraft batteries are universal wastes under RCRA. They may be returned to Saft Valdosta or local collecting points mentioned in Saft website (www.saftbatteries.com) for recycling.

These batteries are TCLP Toxic. These batteries and the electrolyte solution they contain are considered to be corrosives. If not recycled, they must be disposed of in accordance with all federal, state, and local hazardous waste regulations.

## 14. TRANSPORTATION INFORMATION

Batteries, wet, filled with alkali, Class 8, UN2795

Rail & Road (RID/ADR) : Code C11, PG N/A
Sea (IMDG) : Labelling 8, PG N/A
Air (IATA) : Labelling 8, PG N/A

## 15. REGULATIONS

**EPCRA reporting requirements**

Section 313 Supplier Notification – This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 if the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

| CAS # | EINECS# | Chemical Name | Percent by Weight |
|---|---|---|---|
| 7440-43-9 | 231-152-8 | Cadmium | 8%-16% |
| 7440-48-4 | 231-158-0 | Cobalt | 1% |
| 7440-50-8 | 231-159-6 | Copper | 9%-11% |
| 7440-02-0 | 231-111-4 | Nickel | 19%-36% |

A copy of this MSDS may be required to be filled with your local emergency planning commission, state emergency response

**Material Safety Data Sheet**
**Product name: Nickel–Cadmium aircraft battery / cell**

**EPCRA reporting requirements (continued)**

Commission, and local fire department in accordance with sections of the Emergency Planning and Community right-To-Know Act.

**EC classification**

**Symbols**

| | |
|---|---|
| C | Corrosive |
| N | Dangerous for the environment |
| Xn | Harmful |
| Xi | Irritant |

**Risk phrases**

| | |
|---|---|
| R20 | Harmful by inhalation |
| R21 | Harmful in contact with skin |
| R22 | Harmful if swallowed |
| R36 | Irritating to eyes |
| R37 | Irritating to respiratory system |
| R38 | Irritating to skin |
| R40 | Limited evidence of a carcinogenic effect |
| R41 | Risk of serious damage to the eyes |
| R43 | May cause sensitization by skin contact |
| R50/53 | Very Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. |

**Safety phrases**

| | |
|---|---|
| S1/2 | Keep locked up and out of the reach of children |
| S2 | Keep out of the reach of children |
| S20 | When using, do not eat or drink |
| S22 | Do not breathe dust |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice |
| S36 | Wear suitable protective clothing |
| S37 | Wear suitable gloves |
| S39 | Wear eyes/face protection |
| S45 | In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.) |
| S60 | Must be disposed of as hazardous waste. |
| S61 | Avoid release to the environment |

## 16. OTHER INFORMATION

**HIMS Ratings**

| | |
|---|---|
| Health | 3 |
| Flammability | 1 |
| Reactivity | 2 |

# Novagard *Solutions*™
# SAFETY DATA SHEET

## SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**1.1 PRODUCT NAME:** Novaflex® Silicone M Series
MultiPurpose Sealant/adhesive

**1.2 GENERIC DESCRIPTION:** Silicone sealant/adhesive

**1.3 MANUFACTURED BY:** **Novagard** *Solutions*™
5109 Hamilton Avenue
Cleveland, OH 44114
216-881-8111

**1.4 COMPANY WEB SITE:** www.novagard.com

**1.5 EMERGENCY PHONE NUMBER:** CHEMTREC 800-424-9300 (24 hour)

**1.6 EMAIL ADDRESS:** techsolutions@novagard.net

## SECTION 2 – HAZARD IDENTIFICATION

### 2.1 CLASSIFICATION OF SUBSTANCE

Acute Toxicity Category 5 / Skin Irritation Category 3

### 2.2 LABELING ELEMENTS

Warning

H303: May be harmful if swallowed
H333: May be harmful if inhaled
H316: Causes mild skin irritation
H320: Causes eye irritation

## SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 ACCORDING TO EU DIRECTIVES 67/548/EEC AND 1999/45/EC and (EC) 1272/2008

| COMPONENT | CAS No. | WT % | EINECS NUMBER | REACH REGISTRATION |
|---|---|---|---|---|
| Silica, amorphous | 68611-44-9 | 0-15 | 271-893-4 | Yes |
| Methyl Oximino Silane | 22984-54-9 | 0-5 | 245-366-4 | Yes |
| Tetra Oximino Silane | 34206-40-1 | 0-0.5 | 251-882-0 | Yes |
| Toluene | 108-88-3 | 0-0.5 | 203-635-9 | Yes |
| Vinyl Oximino Silane | 2224-33-1 | 0-4 | 218-747-8 | Yes |
| Aminopropyltriethoxysilane | 919-30-2 | 0-2 | 213-048-4 | Yes |
| Dibutyl tin dilaurate | 77-58-7 | < 0.2% | 201-039-8 | Yes |

# Novagard *Solutions*™
# SAFETY DATA SHEET

## SECTION 4 - FIRST AID MEASURES

### 4.1 PRECAUTIONARY STATEMENTS

P264: Wash thoroughly after handling
P312: Call a doctor if you fell unwell
P332: If skin irritation occurs get medical attention
P337: If eye irritation persists get medical attention

**Eye:** Contact with the eyes may cause temporary irritation. Flush eyes with copious amounts of water for a minimum of 15 minutes. If chronic irritation develops contact a physician.
**Skin:** Contact with skin may cause irritation. Wash contacted areas with soap and water.
**Oral:** If ingested do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

## SECTION 5 - FIRE FIGHTING MEASURES

**5.1 EXTINGUISHING MEDIA** Water, $CO_2$ ,Dry Chemical, Foam.

**5.2 SPECIAL FIRE FIGHTING PROCEDURES** None

### 5.3 HAZARDOUS DECOMPOSITION PRODUCTS

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300$^{o}$ F and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

Disposal of collected product, residues and cleanup materials may be governmentally regulated. Observe all applicable local, state and federal waste management regulations. Scrape up and contain for salvage or disposal. Wash all walking surfaces with detergent and water to reduce slipping hazard. Observe all personal and protection equipment recommendations described in Section 5 and 8. Local, state and federal reporting requirements may apply to spills or releases of this matter into the environment. See applicable regulatory compliance information in Section 15.

## SECTION 7 - HANDLING AND STORAGE

**PRECAUTIONS** Keep container closed when not in use. Avoid contact with skin and eyes.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Local exhaust: Recommended General ventilation: Recommended Eyewash stations: Recommended

# Novagard *Solutions*™
# SAFETY DATA SHEET

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

### 8.2 PERSONAL PROTECTIVE EQUIPMENT FOR ROUTINE HANDLING

| | |
|---|---|
| **Eye Protection:** | Use proper protection - safety glasses as a minimum |
| **Skin Protection:** | Wash after any contact. Chemical protective gloves are recommended |
| **Respiratory Protection:** | Not required for properly ventilated areas. If high levels of vapor or mist should accumulate, use NIOSH approved respirator with organic vapor cartridge |

### 8.3 MISCELLANEOUS INFORMATION

Product evolves methyl ethyl ketoxime (MEKO) when exposed to water or humid air. Provide ventilation during use to control exposure within guidelines (see Section 2) or use respiratory protection. Product evolves alcohol when exposed to water or humid air. Provide ventilation during use to control exposure within Section 2 guidelines. Respiratory protection should be considered for exposures resulting from unusual tasks and/or use in non-ventilated areas.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Flash Point:** | Not Applicable | | |
| **Flammability Limits in Air** | Upper - Not Determined | Lower - Not Determined | |
| **Physical form** | Hazy liquid | | |
| **Odor:** | slight sulfur smell | | |
| **Specific Gravity @25? C:** | 1.00 | | |
| **Boiling Point (@ 760 mm Hg)** | Not applicable | | |
| **Freezing/melting point** | Not applicable | | |
| **Vapor pressure:** | Not applicable | | |
| **Evaporation rate:** | Not applicable | | |
| **Volatile content:** | Not applicable | | |
| **Odor threshold** | Not applicable | | |
| **VOC (EPA method 24):** | <25 gm/l | **Percent Volatile by volume:** | <0.5% |
| **Solubility in water:** | < 1.0% | | |
| **Solubility in organic solvent:** | Mineral spirits | | |

## SECTION 10 - STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical stability:** | Stable |
| **Hazardous polymerization:** | Will not occur |
| **Conditions to avoid:** | None known |
| **Materials to avoid:** | None known |
| **Conditions to avoid:** | None known |
| **Hazardous thermal decomposition and combustion by-products:** | Carbon monoxide, carbon dioxide, silicon dioxide, and formaldehyde |

# Novagard *Solutions*™
# SAFETY DATA SHEET

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 ACUTE TOXICITY

| | |
|---|---|
| Acute oral LD 50 (rat) | >2000 mg/kg (crosslinker component) |
| Acute dermal LD50 (rabbit) | 1000-1800 mg/kg (MEKO) |
| Acute Inhalation LC50 (rat) | >4.8 mg/l @ 4H time (MEKO |
| | |
| On Contact Eye: | May irritate eyes |
| On Contact with Skin: | May cause mild skin irritation |
| On Inhalation: | Not anticipated during industrial use |
| Oral: | Not anticipated during industrial use |

### 11.2 CRONIC TOXICITY

| | |
|---|---|
| **Carcinogens:** | This product does not contain any ingredients listed by IARC, NTP or OSHA as chemical carcinogens. |
| **Teratogens:** | None known |
| **Mutagens:** | None known |
| **Reproductive Toxins:** | None known |

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 ECOTOXICITY EFFECTS

Mixture is not toxic to aquatic organisms.

### 12.2 PERSISTANCE AND DEGRADABILITY

Solid material that is insoluble in water. The products of degradation are less toxic than the product itself.

### 12.3 BIOACCUMULATION

No bioaccumulation data is available

## SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal method: Disposal should be made in accordance with federal, state and local regulations.

## SECTION 14 - TRANSPORTATION INFORMATION

Not Regulated for domestic transport

| | | | |
|---|---|---|---|
| DOT shipping name: | None | DOT hazard class: | None |
| DOT labels: | None | UN/NA number: | None |

# Novagard *Solutions*™
# SAFETY DATA SHEET

## SECTION 15 - REGULATORY INFORMATION

**15.1 INVENTORY STATUS**

All chemical substances found in this product comply with the (TSCA) reporting requirements

All chemical components found in this product are listed, exempt or notified via EINECS (ELINCS)

AICS: All components listed, exempt or notified

DSL: All components listed, exempt or notified

**15.2 EPA SARA Title III Chemical Listings:**

| | |
|---|---|
| 40 CFR 355 Section 302 | |
| Extremely Hazardous Substance List: | None found |
| Section 312, 311 Hazard Class: | None |
| 40 CFR 372.65 Section 313 Toxic Chemical List: | None found |

**Hazard Rating System:**

HMIS: Flammability 1, Reactivity 0, Health 1
NFAPA: Flammability 1, Reactivity 0, Health 1

**California Proposition 65:** Toluene CAS #108-88-3

## SECTION 16 - OTHER INFORMATION

**REVISED**: 05-26-2015

The information presented in this Safety Data Sheet relates only to the specific product designated herein, and no warranty, or guarantee, either expressed or implied is made regarding the performance and conditions of this product. This information is based upon information that Novagard believes to be true and accurate; however, it is the responsibility of each user to review this information within the specific context of their intended application.

# MATERIAL SAFETY DATA SHEET

**NOVUS Inc.**
12800 Highway 13 South, Suite 500
Savage, MN 55378

**Medical Emergencies (800) 420-8036**
**Transportation Emergencies (800) 424-9300**
**(Outside U.S. call (703) 527-3887 collect)**
**Business phone # (952) 944-8000**

## SECTION 1 - PRODUCT IDENTIFICATION AND USE

| | | | |
|---|---|---|---|
| ***PRODUCT NAME(S):*** | NOVUS Plastic Polish #1 (P/N 7020, 7024, 7026, 7050) - Plastic Clean & Shine | ***NOVUS I.D. NUMBER:*** | 7010 |
| ***CHEMICAL NAME:*** | NA | ***PRODUCT USE:*** | Clean and restore plastic surfaces. |

## SECTION 2 - HAZARDOUS INGREDIENTS

| *INGREDIENT* | *% BY WEIGHT* | *CAS #* | *EXPOSURE LIMITS* | *LD50 (SPECIES & ROUTE)* | *LC50 (SPECIES)* |
|---|---|---|---|---|---|
| Isopropyl Alcohol | 0.5 - 1.5 | 67-63-0 | 400 ppm (1,2)<br>500 ppm (4) | 5045 mg/kg (rat, oral) | 16000 ppm (rat) |

***NOTES:*** ***(1) ACGIH TLV (TWA)*** ***(2) - OSHA PEL (TWA)*** ***(3) - ACGIH STEL*** ***(4) - OSHA STEL*** ***(5) - MFR/SUPPLIER TLV***

***** REGULATED CHEMICAL REPORTABLE PER SECTION 313, TITLE III SARA AND 40 CFR372***

## SECTION 3 - PHYSICAL DATA

| | | | | | |
|---|---|---|---|---|---|
| ***PHYSICAL STATE:*** | Liquid | ***APPEARANCE:*** | White opaque liquid | ***ODOR:*** | Slight odor |
| ***VAPOR PRESSURE (mmHg):*** | <33 | ***% VOLATILE:*** | ≤0.5 | ***VAPOR DENSITY (AIR=1):*** | NE |
| ***EVAPORATION RATE (BuAc=1):*** | < 1 | ***BOILING POINT (°C):*** | 99 | ***FREEZING POINT (°C):*** | NE |
| ***pH:*** | NE | ***DENSITY (g/mL):*** | 1.0 | ***SOLUBILITY IN WATER:*** | Complete |

## SECTION 4 - FIRE AND EXPLOSION DATA

| | |
|---|---|
| ***FLAMMABILITY*** YES ☐ NO ☒ ***IF YES, UNDER WHICH CONDITIONS:*** | ***NFPA RATING:*** 1 1 0 |

***EXTINGUISHING MEDIA:*** Use media suitable for surrounding materials.

***SPECIAL FIRE FIGHTING PROCEDURES:*** No special procedures required.

| | | | | | |
|---|---|---|---|---|---|
| ***FLASH POINT (PMCC) deg F:*** | >200 | ***UPPER FLAMMABILITY LIMIT: (% BY VOLUME)*** | NE | ***LOWER FLAMMABILITY LIMIT: (% BY VOLUME)*** | NE |
| ***AUTOIGNITION TEMPERATURE (deg C):*** | NE | ***HAZARDOUS COMBUSTION PRODUCTS:*** | Carbon Dioxide and Carbon Monoxide. | | |
| ***EXPLOSION DATA*** ***SENSITIVITY TO IMPACT:*** | NE | ***SENSITIVITY TO STATIC DISCHARGE:*** | NE | | |

## SECTION 5 - REACTIVITY DATA

| | |
|---|---|
| ***CHEMICAL STABILITY:*** YES ☒ NO ☐ ***IF NO, UNDER WHICH CONDITIONS:*** | |
| ***INCOMPATIBILITY WITH OTHER SUBSTANCES:*** YES ☒ NO ☐ ***IF SO, WHICH ONES?*** | Strong oxidizers. |
| ***REACTIVITY, AND UNDER WHICH CONDITIONS?*** | Product is not considered highly reactive. |
| ***HAZARDOUS DECOMPOSITION PRODUCTS:*** | Carbon Dioxide and Carbon Monoxide. |

***PRODUCT NAME(S):*** NOVUS Plastic Polish #1 (P/N 7020, 7024, 7026, 7050) - Plastic Clean & Shine

## SECTION 6 - TOXICOLOGICAL PROPERTIES

***ROUTE OF ENTRY:*** ***SKIN CONTACT*** [X] ***SKIN ABSORPTION*** [X] ***EYE CONTACT*** [X] ***INHALATION*** [ ] ***INGESTION*** [X]

***EFFECTS OF ACUTE EXPOSURE TO PRODUCT:***
May be mildly irritating to the eyes. May cause mild skin irritation in certain individuals.

***EFFECTS OF CHRONIC EXPOSURE TO PRODUCT:***
Prolonged inhalation of mist may cause mild respiratory irritation.

| ***EXPOSURE LIMITS:*** | ***IRRITANCY OF PRODUCT:*** | ***SENSITIZATION TO PRODUCT:*** | ***CARCINOGENICITY:*** |
|---|---|---|---|
| See section 2. | Mild: Eyes, skin | None reported or anticipated | NE |
| ***TERATOGENICITY:*** | ***REPRODUCTIVE TOXICITY:*** | ***MUTAGENICITY:*** | ***SYNERGISTIC PRODUCTS:*** |
| NE | NE | NE | NE |

## SECTION 7 - PREVENTIVE MEASURES

***PERSONAL PROTECTIVE EQUIPMENT***

***CLOTHING (SPECIFY):*** Not normally required; however, in situations of extended skin contact, neoprene or other chemical resistant gloves are recommended.

***RESPIRATORY (SPECIFY):*** Not normally required.

***EYE (SPECIFY):*** Not normally required; however, the use of safety glasses is recommended.

***OTHER (SPECIFY):*** If possible, eye wash and safety shower should be available.

***ENGINEERING CONTROLS (SPECIFY):***
Local exhaust may be necessary under some useage/handling conditions. Specific needs should be addressed by health/safety personnel.

***LEAK/SPILL PROCEDURE:***
Wear personal protective equipment. Remove heat and ignition sources, ventilate area, clean up with inert absorbant.

***WASTE DISPOSAL:***
Dispose of according to local, state, provincial, and federal regulations. Wastes of this product are not classified as hazardous wastes.

***HANDLING PROCEDURES/EQUIPMENT AND STORAGE REQUIREMENTS:***
Store in closed container in cool, dry location, away from direct sunlight and sources of intense heat.

***SPECIAL SHIPPING INFORMATION:***

KEEP FROM FREEZING
NOT REGULATED BY D.O.T.

***OTHER INFORMATION:***

**HMIS Rating:**
1 1 0 B

## SECTION 8 - FIRST AID MEASURES

***SYMPTOMS / EFFECTS OF OVEREXPOSURE:*** Prolonged or repeated exposure may lead to skin irritation and dermatitis. Eye contact may be irritating and may cause damage.

***EYES:*** Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open. Get prompt medical attention.

***SKIN:*** Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

***INHALATION:*** Move victim to fresh air and treat symptomatically. Seek medical attention if irritation persists.

***INGESTION:*** Contact local poison control center or physician IMMEDIATELY!

## SECTION 9 - MSDS PREPARATION INFORMATION

***THIS MATERIAL SAFETY DATA SHEET IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.***

***PREPARED BY:*** **NOVUS Inc. CHEMISTRY DEPARTMENT** ***DATE:*** **5-9-2013**

# SAFETY DATA SHEET

*Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, and the Global Harmonization Standard*

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

**IDENTIFICATION of the SUBSTANCE or PREPARATION:**

| | |
|---|---|
| TRADE NAME (AS LABELED): | **NOVUS PLASTIC POLISH #2** |
| PRODUCT CODE: | 7030, 7032, 7033, 7072 |
| CHEMICAL NAME/CLASS: | Aqueous Silica/Hydrocarbon Mixture |
| U.N. NUMBER: | Not Applicable |
| U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK: | Not Applicable |
| **RELEVANT USES of the SUBSTANCE:** | Clean and Restore Plastic Surfaces |
| **USES ADVISED AGAINST:** | Other than Relevant Use, Including Glass Polishing |
| **COMPANY/UNDERTAKING IDENTIFICATION:** | |
| U.S./DISTRIBUTOR'S NAME: | **NOVUS, INC.** |
| ADDRESS: | 650 Pelham Boulevard, Suite 100<br>St Paul, MN 55114 |
| EMERGENCY PHONE (medical): | 1-800-420-8036 |
| EMERGENCY PHONE (transport): | United States/Canada/Puerto Rico: 1-800/424-9300 (Chemtrec) [24-hrs]<br>International: 1-703-527-3887 (Chemtrec) [24-hours] |
| EMAIL ADDRESS FOR SDS INFORMATON: | msds-info@novusglass.com |
| DATE OF PREPARATION: | April 22, 2005 |
| DATE OF REVISION: | February 9, 2015 |

## 2. HAZARD IDENTIFICATION

**OSHA HAZARD COMMUNICATION (GLOBAL HARMONIZATION) LABELING AND CLASSIFICATION:** This product would be classified as follows, per OSHA's Hazard Communication Standard (29CFR §1910.1200). This is a self-classification.

Classification: Eye Irritation Cat. 2A, Skin Irritation Cat. 2, STOT (Inhalation-Respiratory Irritation) SE Cat. 3, STOT (Inhalation) RE Cat. 2

Signal Word: Warning

Hazard Statement Codes: H319, H315, H335, H373

Precautionary Statement Codes: P260, P264, P271, P280, P305 + P351 + P338, P337 + P313, P302 + P352, P321, P332 + P313, P362 + P364, P304 + P340, P312, P403 + P233, P405, P501

Hazard Symbols/Pictograms: GHS08, GHS07

See Section 16 for a full definition of Hazard and Precautionary Statements.

**EMERGENCY OVERVIEW: Product Description:** This product is an opaque, tan, viscous liquid with a slight, solvent odor. **Health Hazards:** This product may mildly irritate contaminated tissue, especially upon prolonged exposure. Inhalation of high concentrations of vapors can cause central nervous system depression (e.g., dizziness, headaches, and nausea). This product may contain Crystalline Silica, which is known to cause cancer by inhalation when particles are present. If this product is used in a manner that creates dust, use of respiratory protection is required. Contains compound that is a suspect mutagen. **Flammability Hazards:** This product must be substantially preheated before ignition can occur. In the event of a fire this product may decompose to release irritating vapors and toxic gases (e.g., silicon, nitrogen and carbon oxides). **Reactivity Hazards:** This product is not reactive. **Environmental Hazards:** Releases of this product to the environment, especially in large quantity, may result in environmental damage. **Emergency Recommendations:** Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.

## 3. COMPOSITION and INFORMATION ON INGREDIENTS

| Chemical Name | CAS # | W/W % | Hazard Symbol | Classification<br>Risk Phrases/Hazard Statements |
|---|---|---|---|---|
| Odorless Mineral Spirits | 64742-48-9 | 7.0-13.0% |  | Due to the fact that this Mineral Spirits contains less than 0.1% benzene or other aromatic, H350 and H340 are not applicable.<br>Classification: Aspiration Toxicity Cat. 1<br>Hazard Statement Codes: H304<br>Hazard Symbols/Pictograms: GHS08 |
| Amorphous Silicas/ Diatomaceous Earths Mixture | 68855-54-9 | 5.0-10.0% |  | SELF CLASSIFICATION<br>Classification: Skin Irritation Cat. 2, Eye Irritation Cat. 2A, STOT (Inhalation-Respiratory Irritation) SE Cat. 3<br>Hazard Statement Codes: H315, H319, H335<br>Hazard Symbols/Pictograms: GHS07 |
| | 61790-53-2 | 1.0-5.0% | | |
| Polydimethyl Siloxane | 63148-62-9 | 4.0-8.0% | | Classification: Not Applicable |
| Morpholine | 110-91-8 | 1.0-5.0% |  | Classification: Flammable Liquid Cat. 3, Acute Inhalation Toxicity Cat. 4, Acute Dermal Toxicity Cat. 4, Acute Oral Toxicity Cat. 4, Skin Corrosion Cat. 1B<br>Hazard Statement Codes: H226, H332, H312, H302, H314<br>Hazard Symbols/Pictograms: GHS02, GHS05, GHS07 |
| Oleic Acid | 112-80-1 | 1.0-5.0% |  | SELF CLASSIFICATION<br>Classification: Skin Irritation Cat. 2<br>Hazard Statement Codes: H315<br>Hazard Symbols/Pictograms: GHS07 |
| Crystalline Silicas Mixture | 14464-46-1 | 0-5.0% |  | SELF CLASSIFICATION<br>Classification: STOT (Inhalation-Lung Damage) RE Cat. 2<br>Hazard Statement Codes: H373<br>Hazard Symbols/Pictograms: GHS08 |
| | 14808-60-7 | 0-1.0% | | |
| Water | 7732-18-5 | Balance | | Classification: Not applicable. |

NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

See Section 16 for a full definition of Hazard and Precautionary Statements.

## 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must be taken for medical attention if any adverse effects occur. Take a copy of label and SDS to health professional with victim.

SKIN EXPOSURE: If this product contaminates the skin, begin decontamination with running water. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effects occur after flushing.

EYE EXPOSURE: If this product enters the eyes, open contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Have contaminated individual "roll" eyes. Minimum flushing is for 20 minutes. Contaminated individual must seek medical attention if adverse effect continues after flushing.

INHALATION: If mists or sprays of this product are inhaled, remove victim to fresh air. The contaminated individual must seek medical attention if any adverse effects occur.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain immediate medical attention.

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE & CHRONIC): See Sections 2 (Hazard Identification) and 11 (Toxicological Information) for description of possible health effects from exposure to this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disorders, respiratory conditions, and central nervous system conditions may be aggravated by prolonged overexposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate overexposure.

## 5. FIRE-FIGHTING MEASURES

FLASH POINT (Pensky-Martens Closed Tester): > 93°C (> 199.4°F)

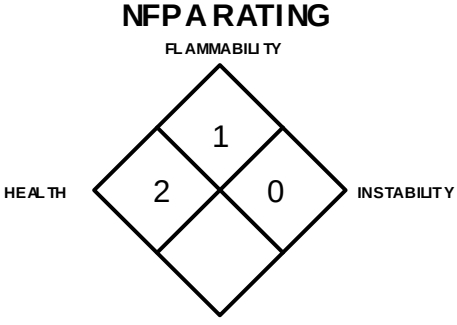
AUTOIGNITION TEMPERATURE: Not available.

FLAMMABLE LIMITS (in air by volume, %): Not available.

FIRE EXTINGUISHING MEDIA: Use extinguishing material suitable to the surrounding fire, including halon, carbon dioxide, dry chemical and ABC class.

UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

**NFPA RATING**




Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe

## 5. FIRE-FIGHTING MEASURES, continued

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: This product presents a moderate eye and skin-contact hazard to firefighters. This material must be substantially preheated before ignition to occur. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (including silicon, nitrogen and carbon oxides).

Explosion Sensitivity to Mechanical Impact: Not applicable.

Explosion Sensitivity to Static Discharge: Vapors may be sensitive to static discharge if water has evaporated.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

## 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: Proper protective equipment should be used. In the event of a spill, clear the area and protect people. Eliminate all sources of ignition before cleanup begins. Use non-sparking tools. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment) if applicable, and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).

PERSONAL PROTECTIVE EQUIPMENT: Use proper protective equipment and non-sparking tools and equipment.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT: Avoid allowing contact with water on spilled substance or inside containers.

Small Spills: Absorb spilled material with polypads or other suitable, non-reacting sorbent, avoiding generation of aerosols, wearing gloves, goggles and apron. Place spilled material in appropriate container for disposal, sealing tightly. Remove all residue before decontamination of spill area.

Large Spills: Access to the spill area should be restricted. Spread should be limited by diking spill area. Absorb spilled liquid with polypads or other suitable absorbent materials.

All Spills: Place all spill residue in a double plastic bag or other containment and seal. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

## 7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: All employees who handle this material should be trained to handle it safely. Keep container tightly closed when not in use. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors or mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

CONDITIONS FOR SAFE STORAGE: Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

CONDITIONS FOR SAFE STORAGE (continued): Containers should be separated from oxidizing materials by a minimum distance of 20 ft. or by a barrier of non-combustible material at least 5 ft. high having a fire-resistance rating of at least 0.5 hours. Storage areas should be made of fire resistant materials. **Local Fire Departments should be notified of the storage of this product on site. Storage and processing areas of this product should be identified with a NFPA 704 placard (diamond) large enough to be seen from a distance.** Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Refer to NFPA 30, *Flammable and Combustible Liquids Code*, for additional information on storage. Have appropriate extinguishing equipment in the storage area (such as sprinkler systems or portable fire extinguishers). Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Empty containers may contain residual product; therefore, empty containers should be handled with care.

SPECIFIC END USE(S): This product is used for cleaning and restoring plastic surfaces. Follow all industry standards for use of this product.

## 7. HANDLING and USE (Continued)

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment thoroughly, before maintenance begins. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures, or applicable standards.

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits provided in this section, if applicable. Use a non-sparking, grounded, explosion-proof ventilation system separate from other exhaust ventilation systems. Exhaust system in manner consistent with prevention of release to atmosphere. An eyewash and safety shower should be readily accessible.

OCCUPATIONAL/WORKPLACE EXPOSURE LIMITS/GUIDELINES:

| CHEMICAL NAME | CAS # | EXPOSURE LIMITS IN AIR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | ACGIH-TLVs | | OSHA-PELs | | NIOSH-RELs | | NIOSH | OTHER |
| | | TWA mg/m$^3$ | STEL mg/m$^3$ | TWA mg/m$^3$ | STEL mg/m$^3$ | TWA mg/m$^3$ | STEL Mg/m$^3$ | IDLH mg/m$^3$ | mg/m$^3$ |
| Amorphous Silica | 68855-54-9 | NE | NE | NE | NE | NE | NE | NE | NE |
| Crystalline Silica | 14808-60-7 | NE | NE | Total Dust: 30 mg/m$^3$ / % $SiO_2$ + 2<br>Resp. Fract.: 250 mppcf / % $SiO_2$ + 5<br>0.1 (vacated 1989 PEL) | or Resp. Fract.: 10 mg/m$^3$ / % $SiO_2$ + 2 | 0.005 (resp. dust) See Pocket Guide Append. A | | 50 | NE |
| Crystalline Silica, Cristobalite | 14464-46-1 | 0.025 (resp. fract.) | NE | ½ the value calculated from the respirable dust formula for quartz<br>0.05 (vacated 1989 PEL) | | 0.005 (resp. dust) See Pocket Guide Append. A | | 25 | NE |
| Diatomaceous Earth | 61790-53-2 | NE | NE | 20 mppcf<br>6 (vacated 1989 PEL) | or 80 mg/m$^3$ / % $SiO_2$ + 2 | 6 | NE | NE | NE |
| Mineral Spirits | 64742-48-9 | NE | NE | NE | NE | NE | NE | NE | Novus OEL: TWA = 500 ppm |
| Morpholine | 110-91-8 | 71 (skin) | Skin | 70 (skin) | Skin | 70 (skin) | 105 (skin) | NE | DFG MAKs: TWA = 36 PEAK = 2•MAK 15 min average value, 1-hr interval, 4 per shift DFG MAK Pregnancy Risk Classification: D |
| Oleic Acid | 112-80-1 | NE | NE | NE | NE | NE | NE | NE | NE |
| Polydimethyl Siloxane | 63148-62-9 | NE | NE | NE | NE | NE | NE | NE | NE |

NE = Not Established. See Section 16 for Definitions of Terms Used.

INTERNATIONAL EXPOSURE LIMITS: Currently, the following international exposure limits are in force the components of this product. Exposure limits change and should be checked.

**CRYSTALLINE SILICA:**
Australia: TWA = 0.1 mg/m$^3$, JUL 2008
Belgium: TWA = 0.1 mg/m$^3$ (resp. dust), MAR 2002
Denmark: TWA = 0.1 mg/m$^3$ (respirable), OCT 2002
Denmark: TWA = 0.3 mg/m$^3$ (total), OCT 2002
Finland: TWA = 0.05 mg/m$^3$, resp. dust, SEP 2009
France: VME = 0.1 mg/m$^3$, (resp), FEB 2006
Japan: OEL-C = 0.03 mg/m$^3$ (respirable), APR 2007
Korea: TWA = 0.1 mg/m$^3$, 2006
Mexico: TWA = 0.1 mg/m$^3$ (respirable), 2004
The Netherlands: MAC-TGG = 0.075 mg/m$^3$, 2003
New Zealand: TWA = 0.2 mg/m$^3$ (respirable dust), JAN 2002
Norway: TWA = 0.1 mg/m$^3$ (resp. dust), JAN 1999

**CRYSTALLINE SILICA (continued):**
Norway: TWA = 0.3 mg/m$^3$ (total dust), JAN 1999
Russia: TWA = 1 mg/m$^3$, STEL = 3 mg/m$^3$, JUN 2003
Sweden: TWA = 0.1 mg/m$^3$ (resp. dust), JUN 2005
Switzerland: MAK-W = 0.15 mg/m$^3$, DEC 2006
Thailand: TWA = 10 mg/m$^3$ (resp. dust), JAN 1993
Thailand: TWA = 30 mg/m$^3$ (total dust), JAN 1993
United Kingdom: TWA = 0.3 mg/m$^3$ (respirable), 2005
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

**CRYSTALLINE SILICA, CRISTOBALITE:**
Australia: TWA = 0.1 mg/m$^3$, JUL 2008
Belgium: TWA = 0.1 mg/m$^3$ (resp. dust), MAR 2002
Denmark: TWA = 0.1 mg/m$^3$ (respirable), OCT 2002

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

EXPOSURE LIMITS/CONTROL PARAMETERS (continued):

INTERNATIONAL EXPOSURE LIMITS (continued):

**CRYSTALLINE SILICA, CRISTOBALITE (continued):**

Denmark: TWA = 0.3 mg/m$^3$ (total), OCT 2002
Finland: TWA = 0.05 mg/m$^3$, resp. dust, SEP 2009
France: VME = 0.1 mg/m$^3$, (resp), FEB 2006
Japan: OEL-C = 0.03 mg/m$^3$ (respirable), APR 2007
Korea: TWA = 0.1 mg/m$^3$, 2006
Mexico: TWA = 0.1 mg/m$^3$ (respirable), 2004
The Netherlands: MAC-TGG = 0.075 mg/m$^3$, 2003
New Zealand: TWA = 0.2 mg/m$^3$ (respirable dust), JAN 2002
Norway: TWA = 0.1 mg/m$^3$ (resp. dust), JAN 1999
Russia: STEL = 1 mg/m$^3$ (total dust), JUN 2003
Sweden: TWA = 0.1 mg/m$^3$ (resp. dust), JUN 2005
Switzerland: MAK-W = 0.15 mg/m$^3$, DEC 2006
Thailand: TWA = 10 mg/m$^3$, JAN 1993
United Kingdom: TWA = 0.3 mg/m$^3$ (respirable), 2005
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

**DIATOMACEOUS EARTH:**

Australia: TWA 10 mg/m$^3$, JUL 2008
Belgium: TWA 10 mg/m$^3$, MAR 2002
Belgium: TWA 3 mg/m$^3$ (resp. dust), MAR 2002
Denmark: TWA = 1.5 mg/m$^3$ (respirable, with no quartz), OCT 2002
Finland: TWA 5 mg/m$^3$, SEP 2009
Germany: MAK = 4 mg/m$^3$ (inhalable), 2005
Korea: TWA = 10 mg/m$^3$, 2006
Mexico: TWA = 10 mg/m$^3$ (inhalable), 2004
Mexico: TWA = 3 mg/m$^3$ (respirable), 2004
New Zealand: TWA = 10 mg/m$^3$ (inspirable dust), JAN 2002
Norway: TWA = 1.5 mg/m$^3$ (resp. dust), JAN 1999
Switzerland: MAK-W = 4 mg/m$^3$, DEC 2006
Thailand: TWA = 80 mg/m$^3$, JAN 1993

**DIATOMACEOUS EARTH (continued):**

United Kingdom: TWA = 1.2 mg/m$^3$ (resp. dust), OCT,2007
In Argentina, Bulgaria, Colombia, Jordan, Korea, New Zealand, Singapore, Vietnam check ACGIH TLV

**MORPHOLINE:**

Australia: TWA =20 ppm (71 mg/m$^3$), JUL 2008
Belgium: TWA =10 ppm (36 mg/m$^3$), MAR 2002
Belgium: STEL = 20 ppm (72 mg/m$^3$), Skin, MAR 2002
Denmark: TWA = 20 ppm (70 mg/m$^3$), OCT 2002
EC: TWA = 36 mg/m$^3$ (10 ppm); STEL = 72 mg/m$^3$ (20 ppm), FEB 2006
Finland: TWA = 10 ppm (36 mg/m$^3$), STEL = 20 ppm (72 mg/m$^3$), Skin, SEP2009
France: VME = 20 ppm (70 mg/m$^3$), VLE = 30 ppm (105 mg/m$^3$), FEB2006
Germany: MAK = 36 mg/m$^3$ (10 mL/m$^3$), 2005
Hungary: TWA = 70 mg/m$^3$, STEL 70 mg/m$^3$, Skin, SEP 2000
Korea: TWA = 20 ppm (70 mg/m$^3$), STEL = 30 ppm (105 mg/m$^3$), skin, 2006
Mexico: TWA = 20 ppm (70 mg/m$^3$); STEL = 30 ppm (skin), 2004
The Netherlands: MAC-TGG = 36 mg/m$^3$, Skin, 2003
New Zealand: TWA = 20 ppm (71 mg/m$^3$), skin, JAN 2002
Norway: TWA = 20ppm (70 mg/m$^3$), JAN1 999
The Philippines: TWA = 20 ppm (70 mg/m$^3$), Skin, JAN1993
Poland: MAC(TWA) 7= 0 mg/m$^3$, MAC(STEL) = 100 mg/m$^3$, JAN1999
Russia: TWA = 0.5 mg/m3, STEL = 1.5 mg/m$^3$, Skin, JUN2003
Sweden: TWA = 10 ppm (35 mg/m$^3$); STEL = 15 ppm (50 mg/m$^3$), Skin, JUN2005
Switzerland: MAK-W = 10 ppm (36 mg/m$^3$), KZG-W = 20 ppm (72 mg/m$^3$), Skin, DEC2006
United Kingdom: TWA = 10 ppm (36 mg/m$^3$); STEL = 20 ppm (72 mg/m$^3$), skin, OCT2007
In Argentina, Bulgaria, Colombia, Jordan, Korea, New Zealand, Singapore, Vietnam check ACGIH TLV

**OLEIC ACID:**

Russia: STEL = 5 mg/m$^3$, JUN 2003

ENVIRONMENTAL EXPOSURE CONTROLS: Refer to Sections 6, 7 and 13 for information on controlling exposure to this product to the environment.

PROTECTIVE EQUIPMENT: *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including* U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hard Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132)*, equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02,* Z94.3-M1982, *Industrial Eye and Face Protectors and* CSA Standard Z195-02, *Protective Footwear). Please reference applicable regulations and standards for relevant details.*

RESPIRATORY PROTECTION: Maintain the Oxygen level above 19.5% in the workplace and exposure limits below levels given earlier in this section, if applicable. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard. If necessary, use only respiratory protection authorized in appropriate regulations to assist in equipment selection. The following are NIOSH respiratory protection guidelines for crystalline silica, in the event that this product creates residual dusts. Also provided are guidelines for Morpholine. These guidelines are given to assist in selection of respiratory protective equipment.

**CRYSTALLINE SILICA**

| CONCENTRATION | RESPIRATORY PROTECTION |
|---|---|
| Up to 0.5 mg/m$^3$: | Any Air-Purifying Respirator with a high-efficiency particulate filter. |
| Up to 1.25 mg/m$^3$: | Any Powered, Air-Purifying Respirator (PAPR) with a high-efficiency particulate filter, or any Supplied-Air Respirator (SAR) operated in a continuous-flow mode. |
| Up to 2.5 mg/m$^3$: | Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any PAPR with a tight-fitting facepiece and a high-efficiency particulate filter. |
| Up to 25 mg/m$^3$: | Any SAR operated in a pressure-demand or other positive-pressure mode. |
| Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: | Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode. |
| Escape: | Any Air-Purifying, Full-Facepiece Respirator with a high-efficiency particulate filter, or any appropriate escape-type, SCBA. |

**MORPHOLINE**

| CONCENTRATION | RESPIRATORY PROTECTION |
|---|---|
| Up to 500 ppm: | Any Supplied-Air Respirator (SAR) operated in a continuous-flow mode, or any Powered Air-Purifying Respirator (PAPR) with organic vapor cartridge(s), or any Air-Purifying Full-Facepiece Respirator equipped with organic vapor cartridge(s), or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any PAPR with a tight-fitting facepiece and organic vapor cartridge(s), or any Self-contained Breathing Apparatus (SCBA) with a full facepiece, or any SAR with a full facepiece. |
| Up to 1, 400 ppm | Any Supplied-Air Respirator (SAR) that has a full facepiece and is operated in a pressure-demand or other positive pressure mode. |

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

RESPIRATORY PROTECTION (continued):

**MORPHOLINE (continued)**

| CONCENTRATION | RESPIRATORY PROTECTION |
|---|---|
| Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: | Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. |
| Escape: | Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any appropriate escape-type, SCBA. |

EYE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations to assist in equipment selection.

HAND PROTECTION: Wear butyl rubber, Teflon™, Barricade™, Chemrel™, nitrile or similar gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. If necessary, refer to applicable regulations and standards.

BODY PROTECTION: Use body protection appropriate for task. Safety shoes are recommended when handling cylinders. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection. If necessary, refer to appropriate regulations to assist in equipment selection.

## 9. PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE: Viscous liquid.
COLOR: Opaque, tan.
MOLECULAR FORMULA: Mixture.
MOLECULAR WEIGHT: Mixture.
ODOR: Hydrocarbon.
ODOR THRESHOLD: Not established for product.
RELATIVE VAPOR DENSITY (air = 1): > 1.0
EVAPORATION RATE (nBuAc = 1): < 1.0
SPECIFIC GRAVITY (water = 1): 1.01
MELTING/FREEZING POINT: Not established for product.
SOLUBILITY IN WATER: Soluble.
BOILING POINT: 80°C (176°F)
VAPOR PRESSURE, mm Hg @ 50°C: < 75
pH: 8.5 to 9.0
% VOLATILE: < 16
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.
HOW TO DETECT THIS SUBSTANCE (identification/warning properties): The odor is a distinguishing characteristic of this product.

## 10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under typical, environmental conditions in a workplace in the absence of contaminates.
DECOMPOSITION PRODUCTS: *Combustion:* Silicon, nitrogen and carbon oxides. *Hydrolysis:* None known.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers, strong acids, strong bases.
POSSIBILITY OF HAZARDOUS REACTIONS: None known.
CONDITIONS TO AVOID: Exposure to water, moist air, and ultraviolet light, incompatible chemicals, high temperatures.

## 11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of occupational overexposure are inhalation of vapors and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

INHALATION: Inhalation is not anticipated to be a significant route of overexposure to this product. If mists of this product are inhaled, Irritation of the nose and other tissues of the upper respiratory system may occur. Inhalation of high concentrations of vapors (as may occur if this material is used in a poorly ventilated area), symptoms of central nervous system depression (e.g., headaches, dizziness, nausea) can result. Symptoms are generally alleviated upon breathing fresh air. This product may contain Crystalline Silica, which is known to cause cancer by inhalation. If this product is used in a manner that creates dust (such as application of product with a mechanical polishing wheel), use of respiratory protection is required.

CONTACT WITH SKIN or EYES: Depending on the duration and concentration of overexposure, eye contact can cause irritation and reddening. Skin contact can cause reddening, discomfort, and irritation. Symptoms are generally alleviated upon rinsing.

SKIN ABSORPTION: Skin absorption is a potential route of exposure for the Morpholine component of this product. Symptoms of such exposure would include those listed under "Contact with Eyes or Skin". If a large area of skin is involved, system toxicity can occur.

INGESTION: Ingestion is not anticipated to be a likely route of exposure to this product in the workplace. If this material is swallowed, it may cause headache, nausea, and vomiting. While not anticipated to occur, due to product viscosity, aspiration of this liquid may cause life-threatening lung damage.

INJECTION: Though not anticipated to be a likely route of occupational exposure, injection of this material (via puncture or laceration by a contaminated object) may cause local reddening, tissue swelling, and discomfort in addition to the wound.

OTHER HEALTH EFFECTS: Components, including Crystalline Silica, are known or suspected carcinogens. This product contains compounds that may damage the lungs through acute and chronic inhalation exposure.

## 11. TOXICOLOGICAL INFORMATION (Continued)

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**.

Acute: This material may be irritating to the eyes, skin, and mucous membranes. Inhalation of high concentrations of this product's vapors can cause dizziness, headaches, and nausea. While unlikely, if swallowed, aspiration of this liquid may cause life-threatening lung damage.

Chronic: Repeated skin contact can cause dermatitis (inflammation of the skin, resulting in redness and dryness). Contains compounds with known or suspected carcinogenic effects (see 'Other Health Effects').

TARGET ORGANS: Acute: Skin, eyes, respiratory system, central nervous system. Chronic: Skin, respiratory system.

TOXICITY DATA: The specific toxicology data available for the components of this product present in greater than 1 percent concentration are presented below:

**AMORPHOUS SILICA:**

Currently, there are no toxicological data for this compound.

**CRYSTALLINE SILICA (QUARTZ):**

LCLo (Inhalation-Human) 300 mg/m$^3$/10 years-intermittent: Systemic effects

TCLo (Inhalation-Human) 16 mppcf/8 hours/17.9 years-intermittent: Pulmonary system effects

TCLo (Inhalation-Rat) 50 mg/m$^3$/6 hours/71 weeks-intermittent: Carcinogenic effects

TCLo (Inhalation-Rat) 80 mg/m$^3$/26 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis); Blood: changes in spleen; Immunological Including Allergic: decrease in cellular immune

TCLo (Inhalation-Rat) 108 mg/m$^3$/6 hours/3 days-intermittent: Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases, Enzyme inhibition, induction, or change in blood or tissue levels: other oxidoreductases, Metabolism (Intermediary): other proteins

TCLo (Inhalation-Rat) 58 mg/m$^3$/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Endocrine: changes in thymus weight; Blood: changes in leukocyte (WBC) count

TCLo (Inhalation-Mouse) 1475 µg/m$^3$/8 hours/21 weeks-intermittent: Lungs, Thorax, or Respiration: other changes

TCLo (Inhalation-Mouse) 4932 µg/m$^3$/24 hours/39 weeks-continuous: Endocrine: changes in spleen weight; Immunological Including Allergic: decrease in humoral immune response

TCLo (Inhalation-Guinea Pig)28 mg/m$^3$/3 weeks-continuous: Lungs, Thorax, or Respiration: other changes, changes in lung weight; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: other

TDLo (Intraperitoneal-Rat) 45 mg/kg: Carcinogenic effects

TDLo (Intratracheal-Rat) 90 mg/kg: Equivocal tumorigenic agent

TDLo (Intratracheal-Rat) 90 mg/kg: AR

TDLo (Intratracheal-Rat) 111 mg/kg: Carcinogenic effects

TDLo (Intratracheal-Rat) 111 mg/kg: AR

TDLo (Intratracheal-Rat) 100 mg/kg/19 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors

TDLo (Intrapleural-Rat) 90 mg/kg: Carcinogenic effects

TDLo (Intrapleural-Hamster) 83 mg/kg: Tumorigenic: neoplastic by RTECS criteria, tumors at site of application

TDLo (Implant-Rat) 900 mg/kg: Neoplastic effects

TDLo (Implant-Mouse) 4000 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Kidney, Ureter, Bladder: tumors

TDLo (Implant-Mouse) 4000 mg/kg: Equivocal tumorigenic agent

TDLo (Intravenous-Rat) 90 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Blood: lymphoma, including Hodgkin's disease

TD (Intraperitoneal-Rat) 90 mg/kg/4 weeks-intermittent: Equivocal tumorigenic agent

TD (Intraperitoneal-Rat) 450 mg/kg/4 weeks-intermittent: Neoplastic effects

**CRYSTALLINE SILICA (QUARTZ) [continued]:**

TD (Implant-Rat) 4554 mg/kg: Equivocal tumorigenic agent

TD (Intrapleural-Rat) 200 mg/kg: Equivocal tumorigenic agent

TD (Intrapleural-Rat) 100 mg/kg: Carcinogenic effects

TD (Intrapleural-Rat) 100 mg/kg: Neoplastic effects

TD (Intrapleural-Rat) 100 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), tumors

LDLo (Intravenous-Rat) 90 mg/kg

LDLo (Intratracheal-Rat) 200 mg/kg

LDLo (Intravenous-Mouse) 40 mg/kg

LDLo (Intravenous-Dog, adult) 20 mg/kg

Micronucleus Test (Human-Lung) 40 µg/cm$^2$

Micronucleus Test (Hamster-Lung) 160 µg/cm$^2$

**CRYSTALLINE SILICA CRISTOBALITE:**

TCLo (Inhalation-Human) 16 mppcf/8 hours/17.9 years-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), Lungs, cough, dyspnea

TCLo (Inhalation-Mouse) 70 mg/m$^3$/5 hours/12 days-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), fibrosis (interstitial), other changes

TCLo (Inhalation-Mouse) 43 mg/m$^3$/5 hours/9 days-intermittent: Lungs, Thorax, or Respiration: pleural effusion, other changes

LDLo (Intratracheal-Rat) 200 mg/kg: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

TDLo (Intratracheal-Rat) 10 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Rat) 20 mg/kg: Lungs, Thorax, or Respiration: fibrosis (interstitial); Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intrapleural-Rat) 90 mg/kg: Tumorigenic: carcinogenic by RTECS criteria; Blood: lymphoma, including Hodgkin's disease

TD (Intrapleural-Rat) 100 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Blood: lymphoma, including Hodgkin's disease

**DIATOMACEOUS EARTH:**

Currently, there are no toxicological data for this compound.

**MORPHOLINE:**

Open Irritation Test (Skin-Rabbit) 500 mg: Moderate

Standard Draize Test (Eye-Rabbit) 2 mg: Severe

$LC_{50}$ (Inhalation-Rat) 8000 ppm/8 hours

$LC_{50}$ (Inhalation-Mouse) 1320 mg/m$^3$/2 hours: Sense Organs and Special Senses (Eye): lacrymation; Behavioral: ataxia; Lungs, Thorax, or Respiration: cyanosis

$LC_{50}$ (Inhalation-Mouse) 12,000 mg/m$^3$: Behavioral: alteration of classical conditioning

$LC_{50}$ (Inhalation-Mouse) 1.35 gm/m$^3$

$LC_{50}$ (Inhalation-Mammal-Species Unspecified) 12,000 mg/m$^3$

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM**

| | |
|---|---|
| **HEALTH HAZARD** (BLUE) | 2* |
| **FLAMMABILITY HAZARD** (RED) | 1 |
| **PHYSICAL HAZARD** (YELLOW) | 0 |

**PROTECTIVE EQUIPMENT**

| EYES | RESPIRATORY | HANDS | BODY |
|---|---|---|---|
|  | SEE SECTION 8 |  | SEE SECTION 8 |

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe * = Chronic hazard

**MORPHOLINE (continued):**

$LD_{16}$ (Oral-Rat) 700 mg/kg: Reproductive: Paternal Effects: spermatogenesis (incl. genetic material, sperm morphology, motility, and count)

$LD_{50}$ (Oral-Rat) 1738 mg/kg: Kidney/Ureter/Bladder: changes in blood vessels or in circulation of kidney

$LD_{50}$ (Oral-Mouse) 525 mg/kg: Behavioral: sleep, somnolence (general depressed activity)

$LD_{50}$ (Oral-Mouse) 1200 mg/kg

$LD_{50}$ (Oral-Mammal-Species Unspecified) 1220 mg/kg

$LD_{50}$ (Skin-Rabbit) 500 µL/kg

$LD_{50}$ (Intraperitoneal-Mouse) 413 mg/kg: Reproductive: Paternal Effects: testes, epididymis, sperm duct

$LD_{50}$ (Subcutaneous-Mouse) 458 mg/kg

LD (Oral-Rat) 1500 mg/kg

LD (Oral-Rat) 2300 mg/kg: Brain and Coverings: changes in circulation (hemorrhage, thrombosis, etc.); Cardiac: cardiomyopathy including infarction, other changes

LC (Inhalation-Mouse) 0.45 gm/m$^3$/2 hours: Behavioral: irritability; Lungs, Thorax, or Respiration: dyspnea; Gastrointestinal: nausea or vomiting

LC (Inhalation-Mouse) 1.67 gm/m$^3$/2 hours: Blood: hemorrhage; Nutritional and Gross Metabolic: weight loss or decreased weight gain

LC (Inhalation-Mouse) 1.98 gm/m$^3$/2 hours

TCLo (Inhalation-Rat) 70 mg/m$^3$/4 hours/17 weeks-intermittent: Vascular: BP lowering not characterized in autonomic section; Blood: changes in leukocyte (WBC) count

TCLo (Inhalation-Rat) 250 ppm/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

TCLo (Inhalation-Rat) 0.07 gm/m$^3$/2 weeks-intermittent: Peripheral Nerve and Sensation: recording from peripheral motor nerve; Vascular: BP elevation not characterized in autonomic section; Blood: other changes

TCLo (Inhalation-Rat) 0.008 gm/m$^3$/61 days-intermittent: Vascular: BP lowering not characterized in autonomic section; Blood: changes in other cell count (unspecified)

TCLo (Inhalation-Rat) 0.07 gm/m$^3$/122 days-intermittent: Liver: other changes; Kidney/Ureter/Bladder: other changes; Blood: changes in leukocyte (WBC) count

## 11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA (continued):

**MORPHOLINE (continued):**

TCLo (Inhalation-Rat) 0.07 gm/m$^3$/30 days-intermittent: Blood: changes in other cell count (unspecified)

TCLo (Inhalation-Rat) 0.008 gm/m$^3$/122 days-intermittent: Blood: changes in spleen; Immunological Including Allergic: decrease in cellular immune response

TCLo (Inhalation-Mouse) 0.1 gm/m$^3$/2 hours: Lungs, Thorax, or Respiration: other changes

TCLo (Inhalation-Guinea Pig) 70 mg/m$^3$/4 hours/17 weeks-intermittent: Liver: liver function tests impaired; Kidney/Ureter/Bladder: other changes in urine composition

TCLo (Inhalation-Guinea Pig) 0.07 gm/m$^3$/2 weeks-intermittent: Peripheral Nerve and Sensation: recording from peripheral motor nerve

TCLo (Inhalation-Guinea Pig) 0.07 gm/m$^3$/30 days-intermittent: Blood: other changes, changes in leukocyte (WBC) count

TCLo (Inhalation-Guinea Pig) 0.008 gm/m$^3$/61 days-intermittent: Liver: liver function tests impaired; Kidney/Ureter/Bladder: other changes in urine composition

TDLo (Oral-Rat) 24 gm/kg/30 days-intermittent: Gastrointestinal: necrotic changes; Kidney/Ureter/Bladder: changes in tubules (including acute renal failure, acute tubular necrosis); Related to Chronic Data: death

TDLo (Oral-Rat) 500 mg/kg

TDLo (Oral-Mouse) 2560 mg/kg/1 year-continuous: Tumorigenic: neoplastic by RTECS criteria; Lungs, Thorax, or Respiration: bronchiogenic carcinoma; Liver: tumors

TDLo (Oral-Guinea Pig) 13,500 mg/kg/30 days-intermittent: Gastrointestinal: necrotic changes; Kidney/Ureter/Bladder: changes in tubules (including acute renal failure, acute tubular necrosis); Related to Chronic Data: death

TDLo (Skin-Rabbit) 9 gm/kg/10 days-intermittent: Liver: fatty liver degeneration; Skin and Appendages: primary irritation (after topical exposure); Related to Chronic Data: death

TDLo (Skin-Mouse) 100 pph/15 minutes: Skin and Appendages: corrosive (after topical exposure)

TDLo (Skin-Guinea Pig) 27 gm/kg/30 days-intermittent: Kidney/Ureter/Bladder: changes in both tubules and glomeruli; Skin and Appendages: primary irritation (after topical exposure); Related to Chronic Data: death

TDLo (Ocular-Rabbit) 100 pph: Sense Organs and Special Senses (Eye): conjunctive irritation, corneal damage, effect, not otherwise specified

LDLo (Oral-Mouse) 1200 mg/kg

LDLo (Oral-Guinea Pig) 100 mg/kg: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Gastrointestinal: ulceration or bleeding from stomach, ulceration or bleeding from small intestine

LDLo (Unreported-Rat) 1600 mg/kg

Morphological Transformation (Mouse-Fibroblast) 125 mg/L

**MORPHOLINE (continued):**

Morphological Transformation (Mouse Lymphocyte) 1 µL/L

Mutation in Mammalian Somatic Cells (Mouse Lymphocyte) 1 gm/L

Sister Chromatid Exchange (Hamster Ovary) 160 mg/L

Cytogenetic Analysis (Inhalation-Rat) 0.07 mg/L/122 days-intermittent

**MINERAL SPIRITS:**

Currently, there are no toxicological data for this compound.

**OLEIC ACID:**

Standard Draize Test (Skin-Human) 15 mg/3 days-intermittent: Moderate

Standard Draize Test (Eye-Rabbit) 100 mg: Mild

Open Irritation Test (Skin-Rabbit) 500 mg: Mild

$LD_{50}$ (Oral-Rat) 25,000 mg/kg

$LD_{50}$ (Oral-Mouse) 28,000 mg/kg $LD_{50}$ (Intravenous-Rat) 2400 µg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, other changes

$LD_{50}$ (Intravenous-Mouse) 230 mg/kg: Behavioral: convulsions or effect on seizure threshold

$LD_{50}$ (Intraperitoneal-Mouse) 282 mg/kg

LD (Intravenous-Rabbit) > 55 mg/kg: Lungs, Thorax, or Respiration: other changes

LD (Intravenous-Monkey) > 40 µL/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases, other Enzymes

TDLo (Skin-Mouse) 1500 mg/kg/3 days-intermittent: Blood: other changes

TDLo (Skin-Mouse) 6 mL/kg/10 days-intermittent: Tumorigenic: carcinogenic by RTECS criteria; Skin and Appendages: tumors; Tumorigenic: facilitates action of known carcinogen

TDLo (Intravenous-Rat) 0.15 mL/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, other changes, changes in lung weight

TDLo (Intravenous-Rat) 100 mg/kg: Lungs, Thorax, or Respiration: changes in pulmonary vascular resistance, acute pulmonary edema, other changes

TDLo (Intravenous-Rat) 100 mg/kg: 100 mg/kg: Blood: hemorrhage, changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: other oxidoreductases

TDLo (Intravenous-Guinea Pig) 15 µL/kg: Lungs, Thorax, or Respiration: changes in pulmonary vascular resistance, respiratory depression

TDLo (Intravenous-Dog) 0.08 mg/kg: Lungs, Thorax, or Respiration: respiratory depression, other changes; Blood: other changes

TDLo (Intravenous-Monkey) 0.08 mg/kg: Immunological Including Allergic: increase in humoral immune response; Biochemical: Metabolism (Intermediary): other proteins

TDLo (Intradermal-Guinea Pig) 400 µg/kg: Immunological Including Allergic: hypersensitivity delayed

**OLEIC ACID (continued):**

TDLo (Intraperitoneal-Mouse) 2712 mg/kg/6 weeks-intermittent: Immunological Including Allergic: autoimmune

TDLo (Subcutaneous-Rabbit) 390 mg/kg/17 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria, tumors at site of application

TCLo (Inhalation-Rat) 30 mg/m$^3$/4 hours: Behavioral: alteration of classical conditioning; Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Immunological Including Allergic: hypersensitivity delayed

Cytogenetic Analysis (Yeast-*Saccharomyces cerevisiae*) 100 mg/L

Cytogenetic Analysis (Hamster Fibroblast) 2500 µg/L

Unscheduled DNA Synthesis (Rectal-Mouse) 35 mg/kg

**POLYDIMETHYL SILOXANE:**

Standard Draize Test (Skin-Rabbit) 500 µL/24 hours: Mild

Standard Draize Test (Eye-Rabbit) 100 µL/24 hours: Mild

$LD_{50}$ (Oral-Rat) > 24 gm/kg: Gastrointestinal: hypermotility, diarrhea

$LD_{50}$ (Oral-Rat) > 17 gm/kg: Kidney/Ureter/Bladder: other changes; Nutritional and Gross Metabolic: other changes

$LD_{50}$ (Skin-Rabbit) > 2 gm/kg: Behavioral: food intake (animal); Gastrointestinal: hypermotility, diarrhea; Skin and Appendages: dermatitis, other (after systemic exposure)

LD (Oral-Rat) > 5 gm/kg

LD (Intramuscular-Rat) > 1200 µL/kg: Immunological Including Allergic: increase in humoral immune response

LD (Skin-Rabbit) > 10,200 mg/kg

LDLo (Intraperitoneal-Mouse) 16 mL/kg: Gastrointestinal: hypermotility, diarrhea, Immunological Including Allergic: decrease in cellular: decrease in humoral immune response

TDLo (Oral-Rat) 1800 mL/kg/26 weeks-continuous: Lungs, Thorax, or Respiration: changes in lung weight; Liver: changes in liver weight; Kidney/Ureter/Bladder: other changes in urine composition

TDLo (Oral-Rat) 227 gm/kg: Sense Organs and Special Senses (Eye): corneal damage; Behavioral: food intake (animal); Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol)

TDLo (Subcutaneous-Rat) 10 gm/kg: female 6-15 day(s) after conception: Reproductive: Specific Developmental Abnormalities: musculoskeletal system

TDLo (Subcutaneous-Rat) 8 gm/kg: female 15-22 day(s) after conception: Reproductive: Effects on Newborn: stillbirth

TDLo (Subcutaneous-Rabbit) 260 mg/kg: female 6-18 day(s) after conception: Reproductive: Effects on Embryo or Fetus: fetal death; Reproductive: Specific Developmental Abnormalities: body wall

CARCINOGENIC POTENTIAL OF COMPONENTS: Components of this product are listed by agencies tracking the carcinogenic potential of chemical compounds, as follows:

**CRYSTALLINE SILICA:** ACGIH TLV-A2 (Suspected Human Carcinogen); IARC-1 (Carcinogenic to Humans); NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization); Respirable Fraction: MAK-1 (Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NTP-K (Known to Be a Human Carcinogen)

**CRYSTALLINE SILICA, CRISTOBALITE:** ACGIH TLV-A2 (Suspected Human Carcinogen); IARC-1 (Carcinogenic to Humans); NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization); Respirable Fraction: MAK-1 (Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NTP-K (Known to Be a Human Carcinogen)

**DIATOMACEOUS EARTH:** IARC-3 (Unclassifiable as to Carcinogenicity in Humans)

**MORPHOLINE:** ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans)

**OLEIC ACID:** MAK-3A (Substances for Which the Criteria for Classification in Category 4 or 5 are fulfilled, but for which the database is insufficient for the establishment of a MAK value)

The remaining components are **not** found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, IARC, GERMAN MAK, and ACGIH, and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product can be mildly irritating to contaminated eyes, skin and mucous membranes.

SENSITIZATION TO THE PRODUCT: Components of this product are not known to cause human skin or respiratory sensitization.

## 11. TOXICOLOGICAL INFORMATION (Continued)

REPRODUCTIVE TOXICITY INFORMATION: Currently, there is no information on the potential human mutagenic, embryotoxic, teratogenic or reproductive effects from this product. Animal data from the Morpholine component has shown both positive and negative mutagenic results, with no conclusions possible on mutagenicity. The Mineral Spirits component is classified under European regulations as a potential mutagenic compound, although no data is available to support this classification.

BIOLOGICAL EXPOSURES INDICES (BEIs): Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of this product.

## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil. The following information is available for some components.

**MORPHOLINE:**

Using a measured log octanol/water partition coefficient (log Kow) of -0.86 and a regression equation, the estimated Koc for this compound is 8. The Koc estimated from molecular structure is 5. According to a suggested classification scheme, this estimated Koc suggests that this compound is highly mobile in soil.

**OLEIC ACID:**

The Koc of undissociated oleic acid is estimated as 340,000, using a log Kow of 7.64 and a regression-derived equation. According to a classification scheme, this estimated Koc value suggests that this compound is expected to be immobile in soil. The pKa of oleic acid is 5.02, indicating that this compound will exist almost entirely in anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. The following information is available for some components.

**MORPHOLINE:**

If released to soil, this compound may volatilize from dry soil surfaces, but not from moist soil. This material in soil will move with soil moisture and is expected to leach extensively. Based on screening test results, biodegradation may be significant, but only after a long adaptation period. When released to natural waters this material will not tend to bioconcentrate, volatilize, or sorb to sediment or organic particulate matter in the water column. While morpholine is biodegradable in screening tests, it is unlikely that significant morpholine degradation would occur because of the long lag period required. This compound reacts with photochemically-produced hydroxyl radicals in the atmosphere resulting in an estimated half-life of 2.6 hrs.

**OLEIC ACID:**

If released to air, a vapor pressure of 5.46X10-7 mm Hg at 25°C indicates this compound will exist in both the vapor and particulate phases in the atmosphere. Vapor-phase material will be degraded in the atmosphere by reaction with ozone; half-lives of about 2.1 and 1.4 hours for the cis- and trans- isomers, respectively, are calculated for this reaction. Particulate-phase oleic acid will be removed from the atmosphere by wet or dry deposition. This compound does not contain chromophores that absorb at wavelengths > 290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, undissociated material is expected to have no mobility based upon an estimated Koc of 340,000. The pKa of oleic acid is 5.02, indicating that this compound will exist almost entirely in anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts. Biodegradation is expected to be an important fate process in soil based on half-lives of 0.2 and 0.66 days in screening tests. If released into water, undissociated this compound is expected to adsorb to suspended solids and sediment based upon the estimated Koc. This material was biodegraded 25-30% in the water column in field studies. Based upon the pKa this material will exist almost entirely in the anion form at pH values of 5 to 9 and therefore volatilization from water surfaces is not expected to be an important fate process. Hydrolysis is not expected to be an important environmental fate process since this compound lacks functional groups that hydrolyze under environmental conditions.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. The following is information for some components.

**MORPHOLINE:**

Because this compound is miscible with water and has a very low measured octanol/water partition coefficient, log Kow -0.86, its tendency to bioconcentrate in aquatic organisms should be extremely low. An experimentally determined BCF for morpholine was < 2.8.

**OLEIC ACID:**

An estimated BCF of 10 was calculated in fish for this compound, using a log Kow of 7.64 and a regression-derived equation. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is low.

ECOTOXICITY: This product may have significant, adverse effects on aquatic plants and animals if accidentally released to an aquatic environment. The following are aquatic toxic data for some components of this product. Limited data are presented in this SDS. Contact Novus for information on additional data.

**MORPHOLINE:**

$LC_{50}$ (bluegill) 96 hours = 350 mg/L
$LC_{50}$ (daphnia) 24 hours = 100 mg/L
$EC_{50}$ (Daphnia magna) 24 hours = 119 mg/L (immobilization)

**OLEIC ACID:**

$LC_{50}$ (*Pimephales promelas* Fathead minnow, juvenile 4-8 wk, length 1.1-3.1 cm) 96 hours = 205,000 µg/L; Conditions: freshwater, static, 18-22°C, dissolved oxygen < or =4.0 mg/L

OTHER ADVERSE EFFECTS: Components of this product are not listed as having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

RESULTS OF PBT and vPvB ASSESSMENT: No data available. PBT and vPvB assessments are part of the chemical safety report required for some substances in European Union Regulation (EC) 1907/2006, Article 14.

## 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in impermeable containers (such as poly or metal waste pails or drums). Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.

## 14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is NOT classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.
TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT considered as Dangerous Goods, per regulations of Transport Canada.
INTERNATIONAL AIR TRANSPORT ASSOCIATION DESIGNATION: This material is NOT considered as dangerous goods, per rules of IATA.
INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is NOT considered as dangerous goods, per rules of the IMO.
ENVIRONMENTAL HAZARDS: This product does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN); components are not specifically listed in Annex III under MARPOL 73/78.

## 15. REGULATORY INFORMATION

**ADDITIONAL U.S. REGULATIONS:**
U.S. SARA REPORTING REQUIREMENTS: The components of this product are NOT subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.
U.S. TSCA INVENTORY STATUS: The components of this product listed are listed on the TSCA Inventory.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): The Crystalline Silica (airborne particles of respirable size) component of this product is on the California Proposition 65 lists. WARNING! This product contains a compound known to the State of California to cause cancer.
**ADDITIONAL CANADIAN REGULATIONS:**
CANADIAN DSL/NDSL INVENTORY: The components of this product listed are listed on the DSL Inventory.
CANADIAN WHMIS IDL DISCLOSURE STATUS: The Amorphous Silica/ Diatomaceous Earth Crystalline Silica, Morpholine and Oleic components of this product have a disclosure level of 1%.
OTHER CANADIAN REGULATIONS: Not applicable.
CANADIAN ENVIRONMENTAL PROTECTION AGENCY (CEPA) PRIORITY SUBSTANCES LISTS: The components of this product are not on the Priority Substances Lists.
CANADIAN WHMIS CLASSIFICATION and SYMBOLS: Class D2B (Materials Causing Other Toxic Effects) Irritation.

## 16. OTHER INFORMATION

OSHA HAZCOM GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: This product would be classified as follows, per OSHA's Hazard Communication Standard (29CFR §1910.1200). This is a self-classification.

Classification: Skin Irritation Category 2, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3, Specific Target Organ Toxicity (Inhalation) Repeated Exposure Category 2
Signal Words: Warning
Hazard Statements: H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H373: May cause damage to respiratory system through prolonged or repeated exposure by inhalation.
Precautionary Statements:
Prevention: P260: Do not breathe vapors/spray. P264: Wash thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves and eye protection.
Response: P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. P337 + P313: If eye irritation persists: Get medical advice/attention. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs, get medical attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P304 + P340: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P321: Specific treatment (remove from exposure and treat symptoms).
Storage: P403 + P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up.
Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.
Hazard Symbols/Pictograms: GHS07, GHS08

## 16. OTHER INFORMATION (Continued)

**PREPARED BY:** CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721 (800) 969-4846
NOVUS INC. CHEMISTRY DEPARTMENT • 650 Pelham Boulevard, Suite 100 • St Paul, MN 55114 (952) 944-8000
**REFERENCES AND DATA SOURCES:** Contact the supplier for information.
**METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION:** Bridging principles were used to classify this product.
**REVISION DETAILS:** April 2012: Review and up-date entire SDS to comply with EU CLP 1272: 2008 and GHS.

# SAFETY DATA SHEET

*Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, European Union CLP EC 1272/2008, REACH and the Global Harmonization Standard*

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

**IDENTIFICATION of the SUBSTANCE or PREPARATION:**

| | |
|---|---|
| TRADE NAME (AS LABELED): | **NOVUS PLASTIC POLISH #3** |
| PRODUCT CODE: | 7080, 7081, 7082, 7085 |
| CHEMICAL NAME/CLASS: | Organic Liquid/Aluminum Oxide/Water Mixture |
| U.N. NUMBER: | Not Applicable |
| U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK: | Not Applicable |
| **RELEVANT USES of the SUBSTANCE:** | Heavy Scratch Remover for Plastic Surfaces |
| **USES ADVISED AGAINST:** | Other than Relevant Use, Including Glass Polishing |
| **COMPANY/UNDERTAKING IDENTIFICATION:** | |
| U.S./DISTRIBUTOR'S NAME: | **NOVUS, INC.** |
| ADDRESS: | 650 Pelham Boulevard, Suite 100<br>St Paul, MN 55114 |
| EMERGENCY PHONE (medical): | 1-800-420-8036 |
| EMERGENCY PHONE (transport): | United States/Canada/Puerto Rico: 1-800/424-9300 (Chemtrec) [24-hrs]<br>International: 1-703-527-3887 (Chemtrec) [24-hours] |
| EUROPEAN DISTRIBUTOR'S NAME: | **TCGI Netherlands B.V.** |
| ADDRESS: | Nedervonder 7<br>5061JP Oisterwijk<br>The Netherlands |
| BUSINESS PHONE: | 31-76-5426000 |
| EMERGENCY NUMBER (medical): | +651-603-3426 (int'l toll) |
| EMERGENCY NUMBER (transport): | +703-527-3887 (ChemTrec International) |
| EMAIL ADDRESS FOR SDS INFORMATON: | msds-info@novusglass.com |
| DATE OF PREPARATION: | September 9, 2000 |
| DATE OF REVISION: | June 26, 2014 |

## 2. HAZARD IDENTIFICATION

**GLOBAL HARMONIZATION AND EU CLP REGULATION (EC) 1272/2208 LABELING AND CLASSIFICATION:** This product does not meet the classification of hazardous.

**EU 67/548/EEC LABELING AND CLASSIFICATION:** This product does not meet the classification of hazardous, as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

**EMERGENCY OVERVIEW: Product Description:** This product is an opaque, white liquid with a mild lemon odor. **Health Hazards:** This product may mildly irritate contaminated tissue, especially upon prolonged exposure. **Flammability Hazards:** In the event of a fire, the components of this product may decompose to release irritating vapors and toxic gases (e.g., oxides of aluminum, silicon, and carbon). **Reactivity Hazards:** Negligible. **Environmental Hazards:** Negligible. **Emergency Recommendations:** Emergency responders must wear personal protective equipment suitable for the situation to which they are responding.

## 3. COMPOSITION and INFORMATION ON INGREDIENTS

| CHEMICAL NAME | CAS # | EINECS or ELNICS # | % w/v | **EU Classification (67/548/EEC)<br>GHS & EU Classification (1272/2008)<br>Risk Phrases/Hazard Statements** |
|---|---|---|---|---|
| Proprietary Copolymer Dispersed in Isoparaffin | | | 1.0-5.0% | EU 67/548/EEC<br>Classification: Not Applicable<br>GHS & EU CLP: 1272/2008:<br>Classification: Not Applicable |
| Dipropylene Glycol Methyl Ether | 34590-94-8 | 252-104-2 | 3.0-7.0% | EU 67/548/EEC<br>Classification: Not Applicable<br>GHS & EU CLP: 1272/2008:<br>Classification: Not Applicable |
| Calcined Kaolin Clay | 66402-68-4 | 266-340-9 | 3.0-7.0% | EU 67/548/EEC<br>Classification: Not Applicable<br>GHS & EU CLP: 1272/2008:<br>Classification: Not Applicable |
| Aluminum Oxide | 1344-28-1 | 215-691-6 | 7.0-13.0% | EU 67/548/EEC<br>Classification: Not Applicable<br>GHS & EU CLP: 1272/2008:<br>Classification: Not Applicable |
| Water and other components. Each of the other components is present in less than 1 percent concentration (or 0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens). | | | Balance | EU 67/548/EEC:<br>Classification: Not applicable.<br>GHS & EU CLP 1272/2008:<br>Classification: Not applicable. |

## 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must be taken for medical attention if any adverse effects occur. Take a copy of label and SDS to health professional with victim.

SKIN EXPOSURE: If this product contaminates the skin, begin decontamination with running water. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effects occur after flushing.

EYE EXPOSURE: If this product enters the eyes, open contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Have contaminated individual "roll" eyes. Minimum flushing is for 20 minutes. Contaminated individual must seek medical attention if adverse effect continues after flushing.

INHALATION: If mists or sprays of this product are inhaled, remove victim to fresh air. The contaminated individual must seek medical attention if any adverse effects occur.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain immediate medical attention.

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE & CHRONIC): See Sections 2 (Hazard Identification) and 11 (Toxicological Information) for description of possible health effects from exposure to this product.

Contaminated individuals should be taken for medical attention if they feel unwell or if adverse effects occur. Take copy of label and MSDS to physician or health professional with contaminated individual.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis and other pre-existing skin disorders may be aggravated by prolonged overexposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate overexposure.

## 5. FIRE-FIGHTING MEASURES

FLASH POINT (Pensky-Martens Closed Tester): > 93°C (> 199.4°F)

AUTOIGNITION TEMPERATURE: Not available.

FLAMMABLE LIMITS (in air by volume, %): Not available.

FIRE EXTINGUISHING MEDIA: Use extinguishing material suitable to the surrounding fire, including halon, carbon dioxide, dry chemical and ABC class.

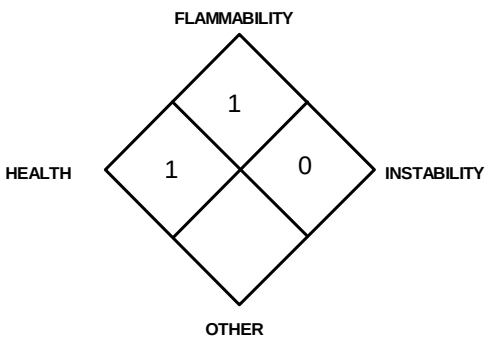
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (including silicon, aluminum and carbon oxides).

Explosion Sensitivity to Mechanical Impact: Not applicable.

Explosion Sensitivity to Static Discharge: Not applicable.

**NFPA RATING**




Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

## 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: Proper protective equipment should be used. In the event of a spill, clear the area and protect people. Eliminate all sources of ignition before cleanup begins. Use non-sparking tools. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment) if applicable, and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).

PERSONAL PROTECTIVE EQUIPMENT: Use proper protective equipment and non-sparking tools and equipment.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT: Avoid allowing contact with water on spilled substance or inside containers.

Small Spills: Absorb spilled material with polypads or other suitable, non-reacting sorbent, avoiding generation of aerosols, wearing gloves, goggles and apron. Place spilled material in appropriate container for disposal, sealing tightly. Remove all residue before decontamination of spill area.

Large Spills: Access to the spill area should be restricted. Spread should be limited by diking spill area. Absorb spilled liquid with polypads or other suitable absorbent materials.

## 6. ACCIDENTAL RELEASE MEASURES, continued

All Spills: Place all spill residue in a double plastic bag or other containment and seal. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

## 7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: All employees who handle this material should be trained to handle it safely. Keep container tightly closed when not in use. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors or mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

CONDITIONS FOR SAFE STORAGE: Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Empty containers may contain residual product; therefore, empty containers should be handled with care.

SPECIFIC END USE(S): This product is used for cleaning and restoring plastic surfaces. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment thoroughly, before maintenance begins. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures, or applicable EU standards.

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits provided in this section, if applicable. Use a non-sparking, grounded, explosion-proof ventilation system separate from other exhaust ventilation systems. Exhaust system in manner consistent with prevention of release to atmosphere. An eyewash and safety shower should be readily accessible.

OCCUPATIONAL/WORKPLACE EXPOSURE LIMITS/GUIDELINES:

| CHEMICAL NAME | CAS # | EXPOSURE LIMITS IN AIR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | ACGIH-TLVS | | OSHA-PELS | | NIOSH-RELS | | NIOSH | OTHER |
| | | TWA ppm | STEL ppm | TWA ppm | STEL ppm | TWA ppm | STEL ppm | IDLH ppm | mg/m$^3$ |
| Aluminum Oxide | 1344-28-1 | 10 mg/m$^3$ | NE | 15 mg/m$^3$ (total dust); 5 mg/m$^3$ (respirable fraction) 10 mg/m$^3$ (total dust) [Vacated 1989 PEL] | NE | NE | NE | NE | DFG MAK: TWA = 1.5 mg/m$^3$ (fume) [respirable fraction] PEAK = 8•MAK 15 min, average value, 1-hr interval (fume) Carcinogen: MAK-2 (fibrous dust), TLV-A4 |
| Calcined Kaolin Clay | 66402-68-4 | NE | NE | NE | NE | NE | NE | NE | NE |
| Dipropylene Glycol Methyl Ether | 34590-94-8 | 100 (skin) | 150 (skin) | 100 (skin) | 150 (skin) | 100 | 150 | 600 | DFG MAK: TWA = 50 PEAK = 1•MAK 30 min, average value |
| Copolymer Dispersed in Isoparaffin | | NE | NE | NE | NE | NE | NE | NE | NE |
| Water and other components. Each of the other components is present in less than 1 percent concentration (or 0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens). | | None of the other components of this product contribute significant, additional, hazards at the concentrations present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian Workplace Hazardous Materials Identification System Standards (CPR 4) and European Community Standards (Commission Directive 93/112/EEC) and subsequent Directives. | | | | | | | |

NE = Not Established.

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION, continued

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS:

Currently, the following international exposure limits are in force the components of this product. Exposure limits change and should be checked.

**ALUMINUM OXIDE:**

Australia: TWA = 10 mg/m$^3$, JAN 1993
Austria: MAK = 5 mg/m$^3$, dust, JAN 1999
Belgium: TWA = 10 mg/m$^3$, JAN 1993
Denmark: TWA = 10 mg(Al)/m$^3$, JAN 1999
France: VME = 10 mg/m$^3$, JAN 1999
Germany: MAK = 6 mg/m$^3$, JAN 1999
Norway: TWA = 2 mg(Al)/m$^3$, JAN 1999
Poland: MAC(TWA) = 2 mg/m$^3$, MAC(STEL) = 16 mg/m$^3$, JAN 1999
The Netherlands: MAC-TGG = 10 mg/m$^3$, 2003
Russia: TWA = 6 mg/m$^3$, JUN 2003
Sweden: TWA = 4 mg(Al)/m$^3$ (resp. Dust), JAN 1999
Sweden: TWA = 10 mg(Al)/m$^3$ (total dust), JAN 1999
Switzerland: MAK-W = 2 mg(Al)/m$^3$, JAN 1999
United Kingdom: TWA = 10 mg/m$^3$, total inhalable dust, SEP 2000
United Kingdom: TWA = 4 mg/m$^3$, respirable dust, SEP 2000
In Argentina, Bulgaria, Colombia, Jordan, Korea, New Zealand, Singapore, Vietnam, New Zealand, Singapore, Vietnam check ACGIH TLV

**DIPROPYLENE GLYCOL METHYL ETHER:**

Australia: TWA = 100 ppm (600 mg/m$^3$), STEL = 150 ppm, Skin, JAN 1993
Austria: MAK = 50 ppm (300 mg/m$^3$), JAN 1999
Belgium: TWA = 100 ppm (606 mg/m$^3$), STEL = 150 ppm, Skin, JAN 1993
Denmark: TWA = 50 ppm (300 mg/m$^3$), Skin, JAN 1999
Finland: TWA = 100 ppm (600 mg/m$^3$), STEL = 150 ppm, Skin, JAN 1999
France: VME = 100 ppm (600 mg/m$^3$), JAN 1999
Germany: MAK 50 ppm (300 mg/m$^3$), JAN 1999
The Netherlands: MAC-TGG = 300 mg/m3, 2003
The Philippines: TWA = 100 ppm (600 mg/m$^3$), Skin, JAN 1993
Sweden: TWA = 50 ppm (300 mg/m$^3$), STEL = 75 ppm (450 mg/m$^3$), Skin, JAN 1999
Switzerland: MAK-W = 50 ppm (300 mg/m$^3$), STEL = 100 ppm (600 mg/m$^3$), JAN 1999
Turkey: TWA = 300 ppm (600 mg/m$^3$), Skin, JAN 1993
United Kingdom: TWA = 50 ppm (308 mg/m$^3$), Skin, SEP 2000
In Argentina, Bulgaria, Colombia, Jordan, Korea, New Zealand, Singapore, Vietnam, New Zealand, Singapore, Vietnam check ACGIH TLV

PROTECTIVE EQUIPMENT: *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including* U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hard Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132)*, equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02,* Z94.3-M1982, *Industrial Eye and Face Protectors and* CSA Standard Z195-02, *Protective Footwear), or standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection). Please reference applicable regulations and standards for relevant details.*

RESPIRATORY PROTECTION: Maintain the Oxygen level above 19.5% in the workplace and exposure limits below levels given earlier in this section, if applicable. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard. If necessary, use only respiratory protection authorized in appropriate regulations to assist in equipment selection. The following are NIOSH respiratory protection guidelines for the Dipropylene Glycol Methyl Ether component of this product.

**DIPROPYLENE GLYCOL METHYL ETHER**

| CONCENTRATION | RESPIRATORY PROTECTION |
|---|---|
| Up to 600 ppm: | Any Supplied-Air Respirator (SAR), or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece. |
| Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: | Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode. |
| Escape: | Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having a high-efficiency particulate filter, or any appropriate escape-type, SCBA. |

EYE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations to assist in equipment selection.

HAND PROTECTION: Wear butyl rubber, Teflon™, Barricade™, Chemrel™, nitrile or similar gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. If necessary, refer to applicable regulations and standards.

BODY PROTECTION: Use body protection appropriate for task. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection. If necessary, refer to appropriate regulations to assist in equipment selection.

## 9. PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE: Viscous liquid.
COLOR: Opaque, white.
MOLECULAR FORMULA: Mixture.
MOLECULAR WEIGHT: Mixture.
ODOR: Lemon.
ODOR THRESHOLD: Not established for product.
RELATIVE VAPOR DENSITY (air = 1): > 1.0
EVAPORATION RATE (nBuAc = 1): < 1.0
SPECIFIC GRAVITY (water = 1): 1.188
MELTING/FREEZING POINT: Not established for product.
SOLUBILITY IN WATER: Soluble.
BOILING POINT: Not established for product
VAPOR PRESSURE, mm Hg @ 20°C: Not established for product.
pH: 9.0 to 10.0
% VOLATILE: < 8
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established for product.
HOW TO DETECT THIS SUBSTANCE (identification/warning properties): The appearance may act as a distinguishing characteristic of this product if accidentally released.

## 10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under typical, environmental conditions in a workplace in the absence of contaminates.
DECOMPOSITION PRODUCTS: *Combustion:* Silicon, aluminum and carbon oxides. *Hydrolysis:* None known.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers, water-reactive materials.
POSSIBILITY OF HAZARDOUS REACTIONS: None known.
CONDITIONS TO AVOID: Exposure to incompatible chemicals.

## 11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of occupational overexposure are contact with skin and eyes. The symptoms of overexposure to this product are as follows:

INHALATION: Inhalation is not anticipated to be a significant route of overexposure to this product. If mists or sprays of this product are inhaled, they may mildly irritate the nose and other tissues of the upper respiratory system. Symptoms are generally alleviated upon breathing fresh air.

CONTACT WITH SKIN or EYES: Depending on the duration and concentration of overexposure, eye contact may cause tearing and redness. Skin contact may cause mild redness, discomfort, and irritation. Symptoms are generally alleviated upon rinsing. Repeated skin contact may cause dermatitis (dry, red skin).

SKIN ABSORPTION: The Dipropylene Glycol Methyl Ether component of this product can be absorbed through intact skin. Skin absorption is not anticipated to cause adverse effects.

INGESTION: Ingestion is not anticipated to be a likely route of exposure to this product. If this material is swallowed, it may cause headache, nausea, and vomiting.

INJECTION: Though not anticipated to be a likely route of occupational exposure, injection of this material (via puncture or laceration by a contaminated object) may cause local reddening, tissue swelling, and discomfort in addition to the wound.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms.

**ACUTE:** This material may irritate the eyes, skin, and mucous membranes. Inhalation of mists or sprays of this product may irritate the nose and other tissues of the upper respiratory system.

**CHRONIC:** Repeated skin contact may cause dermatitis (dry, red skin). See below for additional information on the components of this product.

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM**

| | | |
|---|---|---|
| **HEALTH HAZARD** | (BLUE) | 1 |
| **FLAMMABILITY HAZARD** | (RED) | 1 |
| **PHYSICAL HAZARD** | (YELLOW) | 0 |

**PROTECTIVE EQUIPMENT**

| EYES | RESPIRATORY | HANDS | BODY |
|---|---|---|---|
|  | SEE SECTION 8 |  | SEE SECTION 8 |

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate
**3** = Serious **4** = Severe * = Chronic hazard

**TARGET ORGANS:** ACUTE: Skin, eyes. CHRONIC: Skin.

TOXICITY DATA: The specific toxicology data available for the components of this product present in greater than 1 percent concentration are presented below:

**ALUMINUM OXIDE:**
$LD_{50}$ (Intraperitoneal-Mouse) > 3600 mg/kg
TCLo (Inhalation-Rat) 200 mg/m$^3$/5 hours/28 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi, chronic pulmonary edema; Related to Chronic Data: death
TCLo (Inhalation-Rabbit) 200 mg/m$^3$/5 hours/28 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi, chronic pulmonary edema; Related to Chronic Data: death
TDLo (Intrapleural-Rat) 90 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors
TDLo (Implant-Rat) 200 mg/kg: Tumorigenic: neoplastic by RTECS criteria, tumors at site of application
TD (Implant-Rat) 200 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria, tumors at site of application

**CALCINED KAOLIN CLAY:**
Currently, there are no toxicological data available for this compound.

**COPOLYMER:**
Currently, there are no toxicological data available for this compound.

**DIPROPYLENE GLYCOL METHYL ETHER:**
Standard Draize Test (Eye-Human) 8 mg: Mild
Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Mild
Open Irritation Test(Eye-Rabbit) 500 mg: Mild
$LD_{50}$ (Oral-Rat) 5400 µL/kg
$LD_{50}$ (Oral-Rat) 5.5 mL/kg
$LD_{50}$ (Oral-Dog) 7500 mg/kg: Lungs, Thorax, or Respiration: other changes
$LD_{50}$ (Skin-Rabbit) 10 mL/kg
TDLo (Skin-Rabbit) 650 mL/kg/13 weeks-intermittent: Behavioral: general anesthetic; Nutritional and Gross Metabolic: weight loss or decreased weight gain; Related to Chronic Data: death
TCLo (Inhalation-Mammal-Species Unspecified) 3000 mg/m$^3$: Behavioral: general anesthetic

**DIPROPYLENE GLYCOL METHYL ETHER (continued):**
TCLo (Inhalation-Rat) 2000 mg/m$^3$/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Guinea Pig) 2000 mg/m$^3$/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Rabbit) 2000 mg/m$^3$/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Monkey) 2000 mg/m$^3$/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain

## 11. TOXICOLOGICAL INFORMATION, continued

CARCINOGENIC POTENTIAL OF INGREDIENTS: The components of this product are listed by agencies tracking potential carcinogenic effects, as follows:

**ALUMINUM OXIDE:** MAK-2 Compound (Substances which are considered to be carcinogenic) Fibrous forms only; ACGIH-TLV-A4 Compound (Not Classifiable as a Human Carcinogen).

The remaining components of this product are not found on the following lists: U.S. FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product can be mildly irritating to contaminated eyes, skin and mucous membranes.

SENSITIZATION TO THE PRODUCT: Components of this product are not known to cause human skin or respiratory sensitization.

REPRODUCTIVE TOXICITY INFORMATION: Currently, there is no information on the potential human mutagenic, embryotoxic, teratogenic or reproductive effects from this product.

BIOLOGICAL EXPOSURES INDICES (BEIs): Currently, there are no ACGIH BEIs determined for any component of this product.

## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. Environmental data for components of this product are available as follows:

**DIPROPYLENE GLYCOL METHYL ETHER:**

Solubility: Miscible with water.

Biodegradation: Five-, ten-, and twenty-day BOD values for Dipropylene Glycol Monomethyl Ether were reported as 0, 0, and 31%, respectively (expressed as percentage of theoretical oxygen demand). The type of inoculum, however, was not specified. This delayed oxygen demand suggests that an acclimation period is required in order for a Dipropylene Glycol Monomethyl Ether -degrading population to become established. Thus, intermittent releases of Dipropylene Glycol Monomethyl Ether to the environment or to wastewater treatment plants may also require an acclimation period before significant amounts of Dipropylene Glycol Monomethyl Ether are removed. No information was found on the biodegradation of Dipropylene Glycol Monomethyl Ether in soil or natural waters.

Bioconcentration: Because Dipropylene Glycol Monomethyl Ether is infinitely soluble in water, it will not be expected to bioconcentrate in aquatic organisms.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product may be harmful or fatal to contaminated plant and animal life (especially if large quantities are released).

OTHER ADVERSE EFFECTS: Components of this product are not listed as having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

RESULTS OF PBT and vPvB ASSESSMENT: No data available. PBT and vPvB assessments are part of the chemical safety report required for some substances in European Union Regulation (EC) 1907/2006, Article 14.

## 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in impermeable containers (such as poly or metal waste pails or drums). Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.

EWC WASTE CODE: 16 10 02 aqueous liquid wastes other than those mentioned in 16 10 01

## 14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is NOT classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT considered as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION DESIGNATION: This material is NOT considered as dangerous goods, per rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is NOT considered as dangerous goods, per rules of the IMO.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This material is NOT considered by the United Nations Economic Commission for Europe to be dangerous goods.

## 14. TRANSPORTATION INFORMATION, continued

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: Not applicable.

ENVIRONMENTAL HAZARDS: This product does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN); components are not specifically listed in Annex III under MARPOL 73/78.

## 15. REGULATORY INFORMATION

**U.S. STATE AND FEDERAL REGULATIONS:**

U.S. SARA REPORTING REQUIREMENTS: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

U.S. TSCA INVENTORY STATUS: The components of this product listed by CAS # in Section 3 (Composition and Information on Ingredients) are listed on the TSCA Inventory. Dipropylene Glycol Methyl Ether, a component of this product, is subject to a TSCA Section 4(a) Test Rule (69 Fed Reg 22,204 – April 26, 2004) for *in vitro* dermal absorption rate testing.

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 lists.

**ADDITIONAL CANADIAN REGULATIONS:**

CANADIAN DSL INVENTORY: The components of this product listed by CAS # in Section 2 (Composition and Information on Ingredients) are listed on the DSL Inventory.

CANADIAN WHMIS IDL DISCLOSURE STATUS: The Dipropylene Glycol Methyl Ether component of this product has a 1% disclosure requirement level.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION AGENCY (CEPA) PRIORITY SUBSTANCES LISTS: The Aluminum Oxide component is on the National Pollutant Release Inventory (NPRI) substance for 2006, but only in fibrous form.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: Not applicable.

**ADDITIONAL EU REGULATIONS:**

SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE PRODUCT: This product may have other requirements under country specific regulations.

- Directive 2008/50/EC on ambient air quality and cleaner air for Europe.

CHEMICAL SAFETY ASSESSMENT: No data available. The chemical safety assessment is required for some substances according to European Union Regulation (EC) 1907/2006, Article 14.

REACH (Registration, Evaluation, and Authorization of Chemicals) DIRECTIVE:

Ingredients: Ingredients have been pre-registered, are of proprietary identity, or are exempt from registration (e.g. polymers). This product does not contain any ingredients which are classified as SVHC (Substances of Very High Concern) under current REACH legislation.

Product: Export volumes of product (and thus each of its ingredients) fall under per annum limit for regulation under REACH.

**DANISH INFORMATION FOR PRODUCT:**

NEUROTOXIC SUBSTANCES IN THE WORKING ENVIRONMENT: No component of this product is listed as a Neurotoxic Substance in the Working Environment in Denmark.

REPRODUCTIVE TOXICANTS IN THE WORKING ENVIRONMENT: No component of this product is listed as a Reproductive Toxicant in the Working Environment in Denmark.

## 16. OTHER INFORMATION

U.S. ANSI STANDARD LABELING (Z129.1): **CAUTION!** MAY CAUSE SKIN AND EYE IRRITATION. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing sprays or mists. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves and eye protection. FIRST-AID: In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. If inhaled, remove to fresh air. If ingested, do not induce vomiting and get medical attention. Get medical attention if any adverse reaction occurs. IN CASE OF FIRE: Use water fog, dry chemical, $CO_2$, or "alcohol" foam. IN CASE OF SPILL: Absorb spill with inert material and place in suitable container. Consult Material Safety Data Sheet for additional information.

EU INFORMATION FOR PRODUCT:

EU LABELING AND CLASSIFICATION: This product does not meet the definition of any hazard classes as defined by the European Community Council Directive 67/548/EEC.

EU CLASSIFICATION: Not applicable.

EU RISK PHRASES: Not applicable.

EU SAFETY PHRASES: Not applicable.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOLS: Not applicable.

EU INFORMATION FOR COMPONENTS:

**Aluminum Oxide:**

EU EINECS/ELINCS NUMBER: 215-691-6.

EU CLASSIFICATION: An official classification for this substance has not been published in Commission Directives 93/72/EEC or 94/69EC.

**Calcined Kaolin Clay:**

EU EINECS/ELINCS NUMBER: 266-340-9

EU CLASSIFICATION: An official classification for this substance has not been published in Commission Directives 93/72/EEC or 94/69EC.

**Copolymer:**

EU EINECS/ELINCS NUMBER: Not established.

EU CLASSIFICATION: An official classification for this substance has not been published in Commission Directives 93/72/EEC or 94/69EC.

**Dipropylene Glycol Methyl Ether:**

EU EINECS/ELINCS NUMBER: 252-104-2

EU CLASSIFICATION: An official classification for this substance has not been published in Commission Directives 93/72/EEC or 94/69EC.

**PREPARED BY:** CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 3519, La Mesa, CA 91944-3519
(800) 441-3365

**DATE OF PRINTING:** June 30, 2014

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **Oatey ABS Medium Black Cement**

**Other means of identification**

**SDS number** 1300E

**Recommended use** Joining ABS Pipes

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** Oatey Co.

**Address** 4700 West 160th St.
Cleveland, OH 44135

**Telephone** 216-267-7100

**E-mail** info@oatey.com

**Transport Emergency** Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

**Emergency First Aid** 1-877-740-5015

**Contact person** MSDS Coordinator

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Flammable liquids | Category 2 |
| **Health hazards** | Serious eye damage/eye irritation | Category 2A |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Aspiration hazard | Category 1 |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Danger

**Hazard statement** Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statement**

**Prevention** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

**Response** Do NOT induce vomiting. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.

**Storage** Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

**Supplemental information**

Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| Methyl ethyl ketone | 78-93-3 | 40-60 |
| ABS Resin | 9003-56-9 | 30-40 |
| Acetone | 67-64-1 | 10-20 |
| Other components below reportable levels | | 2.41 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact** Take off immediately all contaminated clothing. Wash off with soap and water.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion** Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

**Most important symptoms/effects, acute and delayed** Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information** Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

## 5. Fire-fighting measures

**Suitable extinguishing media** Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media** Water. Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards** Highly flammable liquid and vapor.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 |
| | | 1000 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | PEL | 590 mg/m3 |
| | | 200 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | STEL | 750 ppm |
| | TWA | 500 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 300 ppm |
| | TWA | 200 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 |
| | | 250 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 885 mg/m3 |
| | | 300 ppm |
| | TWA | 590 mg/m3 |
| | | 200 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Methyl ethyl ketone (CAS 78-93-3) | 2 mg/l | MEK | Urine | * |

* - For sampling details, please see the source document.

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear protective gloves.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Form** Opaque liquid.

**Color** Black.

**Odor** Solvent.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** 151 °F (66.11 °C)

**Flash point** 14.0 - 23.0 °F (-10.0 - -5.0 °C)

**Evaporation rate** 5.5 - 8

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** 1.8

**Flammability limit - upper (%)** 11.8

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 145 mm Hg @ 20 C

**Vapor density** 2.5

**Relative density** 0.89 +/- 0.02

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** 500 - 1500 cP

| | |
|---|---|
| **Viscosity temperature** | 77 °F (25 °C) |
| **Other information** | |
| **Bulk density** | 7.4 lbs/gal |
| **VOC (Weight %)** | < 325 g/l SQACMD 1168/M316A |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May be fatal if swallowed and enters airways. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause irritation to the respiratory system. |
| **Skin contact** | No adverse effects due to skin contact are expected. |
| **Eye contact** | Causes serious eye irritation. |
| **Ingestion** | May be fatal if swallowed and enters airways. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |

**Information on toxicological effects**

**Acute toxicity** May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

| Components | Species | Test Results |
|---|---|---|
| Acetone (CAS 67-64-1) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 20 ml/kg |
| *Inhalation* | | |
| LC50 | Rat | 50 mg/l, 8 Hours |
| *Oral* | | |
| LD50 | Rat | 5800 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|---|---|
| **Skin corrosion/irritation** | Prolonged skin contact may cause temporary irritation. |
| **Serious eye damage/eye irritation** | Causes serious eye irritation. |
| **Respiratory or skin sensitization** | |
| **Respiratory sensitization** | Not available. |
| **Skin sensitization** | This product is not expected to cause skin sensitization. |
| **Germ cell mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Carcinogenicity** | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

| | |
|---|---|
| **Reproductive toxicity** | This product is not expected to cause reproductive or developmental effects. |
| **Specific target organ toxicity - single exposure** | Respiratory tract irritation. Narcotic effects. |

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| Acetone (CAS 67-64-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | -0.24 |
| Methyl ethyl ketone (CAS 78-93-3) | 0.29 |

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

**UN number** UN1133
**UN proper shipping name** Adhesives
**Transport hazard class(es)**
**Class** 3
**Subsidiary risk** -
**Label(s)** 3
**Packing group** II
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
**Special provisions** T11, TP1, TP8, TP27
**Packaging exceptions** 150
**Packaging non bulk** 201
**Packaging bulk** 243

**IATA**

**UN number** UN1133
**UN proper shipping name** Adhesives
**Transport hazard class(es)**
**Class** 3
**Subsidiary risk** -

| | |
|---|---|
| **Packing group** | II |
| **Environmental hazards** | No. |
| **ERG Code** | 3L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1133 |
| **UN proper shipping name** | ADHESIVES |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | - |
| **Packing group** | II |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-E, S-D |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | LISTED |
| Methyl ethyl ketone (CAS 78-93-3) | LISTED |

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |
| Methyl ethyl ketone (CAS 78-93-3) | 6714 |

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 35 %WV |
| Methyl ethyl ketone (CAS 78-93-3) | 35 %WV |

**DEA Exempt Chemical Mixtures Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |

Methyl ethyl ketone (CAS 78-93-3) 6714

**US state regulations**

**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. New Jersey Worker and Community Right-to-Know Act**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. Rhode Island RTK**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 27-May-2015

**Revision date** -

**Version #** 01

**HMIS® ratings** Health: 2
Flammability: 3
Physical hazard: 0

**NFPA ratings**


**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available.

MATERIAL SAFETY DATA SHEET
May be used to comply with OSHA's Hazard Communication Standard, 29CFR 1910.1200. Standard must be consulted for specific requirements.

**U.S. Department of Labor**
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

SIMILAR TO FORM OSHA 174

IDENTITY (As Used on Label and List)
**OIL-FLO™ 141 SAFETY SOLVENT CLEANER**

| NFPA | ACUTE HEALTH | FIRE | REACTIVITY |
|---|---|---|---|
| | 1 | 1 | 0 |

0=LEAST 1=SLIGHT 2=MODERATE 3=HIGH 4=EXTREME

## Section 1

MANUFACTURER'S NAME
**TITAN LABORATORIES**

EMERGENCY TELEPHONE NUMBER
**SEE BELOW OR 800-255-3924 EMERG'Y ONLY**

ADDRESS
**2235 MORA DR.**
**MOUNTAIN VIEW, CA 94040**

TELEPHONE NUMBER FOR INFORMATION
**650-965-9900, 800-475-3300 • FAX 650.964.4400**

DATE PREPARED **February 12, 2002 V2.3**

## Section II --- Hazardous Ingredients/Identify Information

| HAZARDOUS COMPONENTS (Specific Chemical Identity; Common Name(s) | OSHA PEL | ACGIH TLV | % (optional) |
|---|---|---|---|
| **ALIPHATIC PETROLEUM DISTILLATES** CAS # 64742-96-7 | 588PPM | | >20% |
| **GLYCOL ETHER E-B** CAS # 111-76-2 | 50PPM | | 1 to 4% |

**CONTAINS NO BENZENE, CHLORINATED HYDROCARBONS OR CFC's.**
**NOT PHOTOCHEMICALLY REACTIVE.**
**BIODEGRADABLE. USDA APPROVED.**

## Section III --- Physical/Chemical Characteristics

| | | | |
|---|---|---|---|
| BOILING POINT | 370 - 550°F | SPECIFIC GRAVITY ($H_2O$ = 1) | 0.834 |
| VAPOR PRESSURE (MM HG) | <1 mm Hg @ 25°F | MELTING POINT NOT APPLIC. | VOC 733 g/L |
| VAPOR DENSITY (AIR = 1) | >5 | EVAPORATION RATE (N-Butyl Acetate = 1) | < 0.10 |
| SOLUBILITY IN WATER | 100% COMPLETE | pH: | 7.0 |

APPEARANCE AND ODOR **COLORLESS TO SLIGHTLY COLORED LIQUID, LOW ODOR**

## Section IV --- Fire and Explosion Hazard Data

| | | | | | |
|---|---|---|---|---|---|
| FLASH POINT (METHOD USED) | 160°F T.C.C. | FLAMMABLE LIMITS | LEL 0.6 | UEL 7 |

EXTINGUISHING MEDIA **FOAM, CARBON DIOXIDE OR DRY CHEMICALS**

SPECIAL FIRE FIGHTING PROCEDURES **WEAR SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE.**

UNUSUAL FIRE AND EXPLOSION HAZARDS **DO NOT WELD ON OR NEAR DRUMS EVEN IF EMPTY. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND TO A PILOT LIGHT OR OTHER FLAME AT A DISTANT LOCATION.**

## Section V --- Reactivity Data



STABILITY : **STABLE**

INCOMPATIBILITY Materials to Avoid ) **STRONG OXIDIZING AGENTS HYPOCHLORITES, CHLORINE**

HAZARDOUS DECOMPOSITION OR BYPRODUCTS **NORMAL COMBUSTION, CARBON DIOXIDE AND WATER VAPOR. INCOMPLETE COMBUSTION, CARBON MONOXIDE AND TOXIC MATERIALS**

HAZARDOUS POLYMERIZATION: **WILL NOT OCCUR**

## Section VI --- Health Hazard Data

| ROUTE(S) OF ENTRY: | INHALATION? | SKIN? | INGESTION? |
|---|---|---|---|
| | **YES** | **YES** | **YES** |

HEALTH HAZARDS (Acute and Chronic) **PROLONGED INHALATION OF VAPORS: NAUSEA, DROWSINESS• SKIN: LOCAL IRRITATION, DRYNESS, CHAPPING OR DERMATITIS • INGESTION: DIARRHEA, NAUSEA, CRAMPS. UNCONSCIOUSNESS. DEATH IN EXTREME CASES. • EYES: IRRITATION**

| CARCINOGENICITY: | NTP? | IARC MONOGRAPHS? | OSHA REGULATED? |
|---|---|---|---|
| | **NONE KNOWN** | **NONE** | **NO** |

SIGNS AND SYMPTOMS OF EXPOSURE **SEE "HEALTH HAZARDS"**

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
**POSSIBLY PRE-EXISTING SKIN OR RESPIRATORY DISORDERS**

EMERGENCY AND FIRST AID PROCEDURES
**INHALATION: REMOVE TO FRESH AIR • SKIN: FLUSH WITH WATER. • INGESTION: RINSE MOUTH. DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION TO LUNGS. GET MEDICAL HELP. • EYES: FLOOD WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. REMOVE CONTACT LENSES IF WORN. GET MEDICAL HELP.**

## Section VII --- Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED **ABSORB WITH SAND, DIATOMACEOUS EARTH, RICE HULL ASH, OR OTHER ABSORBENT MATERIAL. OR DILUTE WITH WATER TO ACCEPTABLE WASTE WATER RATIO, OR CONTAIN WITH TEMPORARY DAM AND COLLECT SPILL FOR REUSE. TURNS MILKY WHITE WHEN MIXED WITH WATER.**

WASTE DISPOSAL METHOD **SMALL SPILL: ABSORB AS ABOVE OR RINSE WITH WATER. LARGE SPILL: OBSERVE WASTE WATER STANDARDS, DISPOSE OF WASTE PROPERLY.**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING **AVOID SPARKS AND OPEN FLAME.**

OTHER PRECAUTIONS
**KEEP CONTAINERS CLOSED WHEN NOT IN USE. KEEP AWAY FROM VEGETATION UNLESS WELL DILUTED. DO NOT TRANSFER INTO UNMARKED CONTAINERS.**

## Section VIII --- Control Measures

RESPIRATORY PROTECTION (Specify Type) **IF CONCENTRATION OF VAPORS EXCEEDS TLV LIMITS, INCREASE VENTILATION OR USE RESPIRATOR.**

VENTILATION LOCAL EXHAUST **IF NEEDED**

PROTECTIVE GLOVES **NITRILE OR NEOPRENE** EYE PROTECTION **IF EXPOSED TO SPLASHING**

OTHER PROTECTIVE CLOTHING OR EQUIPMENT **IMPERVIOUS CLOTHING OR BOOTS**

WORK/HYGIENIC PRACTICES
**WASH THOROUGHLY AFTER HANDLING, UNDER RINGS AND WATCHBANDS ALSO.**

AIR PRODUCTS

# MATERIAL SAFETY DATA SHEET

## SECTION 1. PRODUCT IDENTIFICATION

**PRODUCT NAME:** **Oxygen, Compressed**
**CHEMICAL NAME:** **Oxygen** **FORMULA:** $O_2$
**SYNONYMS:** Oxygen gas, Gaseous Oxygen, GOX
**MANUFACTURER:** **Air Products and Chemicals, Inc.**
7201 Hamilton Boulevard
Allentown, PA 18195 - 1501
**PRODUCT INFORMATION:** 1-800-752-1597
**MSDS NUMBER:** 1012 **REVISION:** 5
**REVISION DATE:** January 1995 **REVIEW DATE:** August 1997**

## SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Oxygen is sold as pure product > 99%.
**CAS NUMBER:** 7782-44-7
**EXPOSURE LIMITS:**
**OSHA:** Not established **ACGIH:** Not established **NIOSH:** Not established

## SECTION 3. HAZARD IDENTIFICATION

### EMERGENCY OVERVIEW

Oxygen is an odorless, colorless, nonflammable gas stored in cylinders at high pressure. It is an oxidizing gas and vigorously accelerates combustion. Keep away from oils or grease. Rescue personnel should be aware of the extreme fire hazards associated with oxygen-enriched (greater than 23%) atmospheres, and that self contained breathing apparatus (SCBA) may be required.

**EMERGENCY TELEPHONE NUMBERS**
**(800) 523-9374 Continental U.S., Canada and Puerto Rico**
**(610) 481-7711 other locations**

**POTENTIAL HEALTH EFFECTS INFORMATION:**

**INHALATION:** Breathing 80% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

**EYE / SKIN CONTACT:** No adverse effect.

**EXPOSURE INFORMATION:**

**ROUTE OF ENTRY:** Inhalation

**TARGET ORGANS:** Eyes, central nervous system

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** Patients with chronic obstructive pulmonary disease retain carbon dioxide abnormally. If oxygen is administered to them, raising the oxygen concentration in the blood depresses their breathing and raises their retained carbon dioxide to a dangerous level.

**CARCINOGENIC POTENTIAL:** Oxygen is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA Subpart Z.

## SECTION 4. FIRST AID

**INHALATION:** Move victim to fresh air or if in elevated pressures reduce oxygen pressures to one atmosphere. Call a physician. The physician should be advised that the victim has been exposed to a high concentration of oxygen. No treatment is required in the absence of symptoms or high pressure exposure.

**EYE / SKIN CONTACT:** Not applicable

**NOTES TO PHYSICIAN:** Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increase the susceptibility to toxicity from oxygen at high pressures. Animal studies also indicate that vitamin "E" deficiency may increase susceptibility to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the Eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce "vacuum-type" headache.

All individuals exposed for long periods to oxygen at high pressure and who exhibit overt oxygen toxicity should have ophthalmologic examinations.

## SECTION 5. FIRE AND EXPLOSION

| FLASH POINT: | AUTOIGNITION: | FLAMMABLE LIMITS: |
|---|---|---|
| Not applicable | Nonflammable | Nonflammable |

**EXTINGUISHING MEDIA:** Oxygen is nonflammable but will support combustion. Use extinguishing media appropriate for surrounding fire.

**HAZARDOUS COMBUSTION PRODUCTS:** None

**SPECIAL FIRE FIGHTING INSTRUCTIONS:** Evacuate all personnel from the danger area. If possible, shut off flow of oxygen which is supporting the fire. Immediately cool containers with water spray from maximum distance. When cool move cylinders from fire area, if possible without risk. Self contained breathing apparatus may be required for rescue workers.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Oxygen vigorously accelerates combustion. Some materials which are noncombustible in air will burn in the presence of an oxygen enriched atmosphere (greater than 23%). Fire resistant clothing may burn and offer no protection in oxygen rich atmospheres. Oxygen may form explosive compounds when exposed to combustible materials or oil, grease, and other hydrocarbon materials. Pressure in a container can build up due to heat and it may rupture if pressure relief devices should fail to function. Upon exposure to intense heat or flame cylinder will vent rapidly and/or rupture violently. Most cylinders are designed to vent contents when exposed to elevated temperatures. Pressure in a container can build up due to heat and it may rupture if pressure relief devices should fail to function.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Evacuate all personnel from affected area. Shut off source of oxygen if possible. Increase ventilation to release area. Personnel who have been exposed to high concentrations of oxygen should stay in a well-ventilated or open area for 30 minutes before going into a confined space or near an ignition source.
If leak is from container or its valve, call the Air Products emergency telephone number. If leak is in user's system close cylinder valve and vent pressure before attempting repairs.

## SECTION 7. STORAGE AND HANDLING

**STORAGE:** Cylinders should be stored upright in a well-ventilated, secure area, protected from the weather. Storage area temperatures should not exceed 125 °F (52 °C) and area should be free of combustible materials. Storage should be away from heavily traveled areas and emergency exits. Avoid areas where salt or other corrosive materials are present. Cylinders should be separated from flammables by a minimum distance of 20 ft. or by a barricade of non-combustible material at least five ft. high having a fire resistance rating of at least 1/2 hour. Valve protection caps and valve outlet seals should remain on cylinders not connected for use. Separate full from empty cylinders. Avoid excessive inventory and storage time. Use a first-in first-out system. Keep good inventory records.

**HANDLING:** Do not drag, roll, or slide cylinder. Use a suitable handtruck designed for cylinder movement. Never attempt to lift a cylinder by its cap. Secure cylinders at all times while in use. Use a pressure reducing regulator or separate control valve to safely discharge gas from cylinder. Use a check valve to prevent reverse flow into cylinder. Do not overheat cylinder to increase pressure or discharge rate. Always open cylinder valve slowly. Do not use rapid opening valves (i.e., ball valves). If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve causing a leak to occur. Use an adjustable strap-wrench to remove over-tight or rusted caps.

All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service in accordance with Compressed Gas Association pamphlet G-4.1.

Carbon steel, stainless steel, copper, brass, nickel and their alloys are materials of construction that can be used in oxygen service. Use piping and equipment adequately designed to withstand pressures to be encountered. Oxygen is not to be used as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Use a check valve or other protective apparatus in any line or piping from the cylinder to prevent reverse flow.

When used in welding and cutting read and understand the manufacturer's instructions and the precautionary label on the products. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

**SPECIAL REQUIREMENTS:** Always store and handle compressed gases in accordance with Compressed Gas Association, Inc. (ph. 703-412-0900) pamphlet CGA P-1, ***Safe Handling of Compressed Gases in Containers.*** Local regulations may require specific equipment for storage or use.

**CAUTION**: Compressed gas cylinders shall not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with the owner's written consent is a violation of federal law.

## SECTION 8. PERSONAL PROTECTION / EXPOSURE CONTROL

**ENGINEERING CONTROLS:** Provide ventilation and/or local exhaust to prevent accumulation of high concentrations of gas (greater than 23%).

**RESPIRATORY PROTECTION:**

GENERAL USE: None required

EMERGENCY: Use SCBA do to possibility of fire when concentrations exceed 23%.

**OTHER PROTECTIVE EQUIPMENT:** Safety shoes and work gloves are recommended when handling cylinders. Clothing exposed to high concentrations may retain oxygen 30 minutes or longer and become a potential fire hazard. Stay away from ignition sources.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Colorless gas
**ODOR:** Odorless
**MOLECULAR WEIGHT:** 32.0
**BOILING POINT (1 atm):** -297.3 °F (-183.0 °C)
**SPECIFIC GRAVITY (Air =1):** 1.10
**SPECIFIC VOLUME (at 70 °F 21.1 °C) and 1 atm):** 12.08 $ft^3$/lb (0.754 $m^3$/kg)
**FREEZING / MELTING POINT:** -361.9 °F (-218.8 °C)
**VAPOR PRESSURE:** Not applicable at 70°F
**GAS DENSITY (At 70°F (21.1°C) and 1 Atm):** 0.083 lb /$ft^3$ (1.326 kg/$m^3$)
**SOLUBILITY IN WATER (Vol./Vol. at 32°F (0°C)):** 0.049

## SECTION 10. REACTIVITY / STABILITY

**CHEMICAL STABILITY:** Stable
**CONDITIONS TO AVOID:** None
**INCOMPATIBILITY:** Oils, grease, hydrocarbons and flammable materials.
**HAZARDOUS DECOMPOSITION PRODUCTS:** None
**HAZARDOUS POLYMERIZATION:** Will not occur

## SECTION 11. TOXICOLOGICAL INFORMATION

At atmospheric concentration and pressure, oxygen poses no toxicity hazards.

Premature infants exposed to high oxygen concentrations may suffer delayed retinal damage which can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hr).

At two or more atmospheres central nervous system (CNS) toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes, and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours, and at six atmospheres in only a few minutes.

## SECTION 12. ECOLOGICAL INFORMATION

The atmosphere contains 21% oxygen. No adverse ecological effects are expected. Oxygen does not contain any Class I or Class II ozone depleting chemicals. Oxygen is not listed as a marine pollutant by DOT (49 CFR 171).

## SECTION 13. DISPOSAL

**UNUSED PRODUCT / EMPTY CONTAINER:** Return container and unused product to supplier. Do not attempt to dispose of residual or unused quantities.

**DISPOSAL:** For emergency disposal, secure cylinder and slowly discharge gas to the atmosphere in a well ventilated area or outdoors.

## SECTION 14. TRANSPORTATION

**DOT HAZARD CLASS:** 2.2 (Nonflammable Gas)

**DOT SHIPPING LABEL:** Nonflammable Gas, Oxidizer

**DOT SHIPPING NAME:** Oxygen, compressed

**IDENTIFICATION NUMBER:** UN 1072

**REPORTABLE QUANTITY (RQ):** None

**PLACARD:** Nonflammable Gas or Oxygen

**SPECIAL SHIPPING INFORMATION:** Cylinders should be transported in a secure upright position in a well ventilated truck. Never transport in passenger compartment of a vehicle. An oxygen label may be used for domestic shipment in the United States and Canada in place of the Non-flammable and Oxidizer labels (49CFR Part 172).

## SECTION 15. REGULATORY INFORMATION

**U.S. FEDERAL REGULATIONS:**

**EPA - ENVIRONMENTAL PROTECTION AGENCY:**

**CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act of 1980 requires notification to the National Response Center of releases of quantities of hazardous substances equal to or greater than the reportable quantities (RQ) in 40 CFR 302.4.

CERCLA Reportable Quantity: None

**SARA TITLE III:** Superfund Amendments and Reauthorization Act of 1986

**SECTION 302:** Requires emergency planning based on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR 355).

Oxygen is not listed as an Extremely Hazardous Substance.

**SECTIONS 311/312:** Require submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA defined hazard classes. The hazard classes for this product are:

| | | | |
|---|---|---|---|
| IMMEDIATE: | No | PRESSURE: | Yes |
| DELAYED: | No | REACTIVITY: | No |
| | | FIRE: | Yes |

**SECTION 313:** Requires submission of annual reports of releases of toxic chemicals that appear in

40 CFR 372.

Oxygen is not listed as a toxic chemical.

**40 CFR PART 68:** Risk Management for Chemical Accident Release Prevention. Requires the development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Oxygen is not listed as a regulated substance.

**TOXIC SUBSTANCE CONTROL ACT (TSCA):** Oxygen is listed on the TSCA inventory.

**OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION**

**29 CFR 1910.119:** Process Safety Management of Highly Hazardous Chemicals. Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Oxygen is not listed as a Highly Hazardous Chemical.

**STATE REGULATIONS**

CALIFORNIA:

Proposition 65: This product does NOT contain any listed substances for which the State of California requires warning under this statute.

SCAQMD Rule: VOC = Not applicable

## SECTION 16. SUPPLEMENTAL INFORMATION

**HAZARD RATINGS:**

| **NFPA RATINGS:** | | **HMIS RATINGS:** | |
|---|---|---|---|
| HEALTH: | 0 | HEALTH: | 0 |
| FLAMMABILITY: | 0 | FLAMMABILITY: | 0 |
| REACTIVITY: | 0 | REACTIVITY: | 0 |
| SPECIAL: | OX (oxidizer) | | |

**Documents with Revision Date January 1995 and Review Date August 1997 are identical in content and either may be used.

Revision Date: 06/20/07

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

PRODUCT NAME: P-17 SMCR

CHEMICAL NAME: Unsaturated Polyester Resin Blend

MANUFACTURER: CASS POLYMERS OF MICHIGAN, INC.
815 WEST SHEPHERD STREET
CHARLOTTE MI 48813 USA

INFORMATION PHONE: (248) 588-2270
EMERGENCY PHONE: (703) 527-3887(Call Collect)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Materials Information System (United States)

| | |
|---|---|
| Health | 2* |
| Flammability | 2 |

Hazard Codes: *=Chronic Hazard 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

**Material Composition**

| Component | CAS.NO | EINECS/ELINCS No. | Percent |
|---|---|---|---|
| Polyester Resin | 28472-89-1 | Polymer | 30% - 40% |
| Vinyl Toluene | 25013-15-4 | 246-562-2 | 15% - 20% |
| Magnesium Silicate | 14807-96-6 | 238-877-9 | 40% - 50% |
| Titanium Dioxide | 13463-67-7 | 236-675-5 | 5% - 10% |
| m-Tolyl Diethanolamine | 91-99-6 | Not Available | 0.5% - 1% |
| Methyl Alcohol† | 67-56-1 | 200-659-6 | 0.5% - 1% |

*Chronic Health Risk-See section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION
† SARA 313 listed material. See Section 15-Regulatory Information.

## 3. HAZARDS IDENTIFICATION

EC Classification(s): Xn-Harmful; F-Flammable

EC Risk Phrase(s):
R10: Flammable
R20: Harmful by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin

(See section 15- REGULATORY INFORMATION for complete text of risk phrases).

**Classification system:**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

**Emergency Overview:**

COMBUSTIBLE LIQUID
Harmful if swallowed - can enter lungs and cause damage
May undergo hazardous polymerization.

**Route(s) of Entry:**

Inhalation, skin and eye contact.

**Acute Exposure:**

INHALATION: Harmful if inhaled. Effects from exposure may include headaches, fatigue, nausea, sensation of drunkeness, central nervous system depression and pulmonary edema.

**Skin:**

Harmful if absorbed through skin. Contact causes skin irritation. Prolonged or repeated skin contact can result in defatting and drying of the skin.

**Eyes:**

Harmful to eyes. Direct contact with this material causes eye irritation. Symptoms may include stinging, tearing, redness and swelling.

**Ingestion:**

Harmful if swallowed. Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Effects from exposure through ingestion may include gastrointestinal disturbances, pain and discomfort. Effects of exposure by ingestion may also include those indicated by the inhalation route. Material is harmful or fatal if liquid is aspirated into the lungs.

**Chronic Exposure:**

Prolonged or repeated exposure may cause damage to the central nervous system and may result in permanent brain damage. Symptoms include: loss of memory, loss of judgement, loss of coordination, effects on hearing and respiratory tract damage. Prolonged or repeated exposure may cause liver and kidney damage.

**Carcinogenicity:**

This material contains Styrene (9% by mass) which is listed by the International Agency for Research (IARC) on Cancer as a group 2B cancer causing agent (possibly carcinogenic to humans).

## 4. FIRST AID MEASURES

**Eye Contact:**

Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

**Skin Contact:**

Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

**Ingestion:**

DO NOT INDUCE VOMITING. ASPIRATION HAZARD: this material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

**Inhalation:**

Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

## 5. FIRE FIGHTING PRECAUTIONS

**General Hazards:**

FLAMMABLE LIQUID: This material's flash point is 127°F (53°C).

**Fire Fighting Extinguishing Media:**

Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

**Fire Fighting Equipment:**

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

**Fire Fighting Instructions:**

Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. DO NOT extinguish a fire resulting from a large flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to disperse vapors if a spill or leak has not ignited. See Section 13 for disposal considerations.

**Fire and Explosion Hazards:**

FLAMMABLE LIQUID. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

**Hazardous Combustion Products:**

Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

## 6. ACCIDENTAL RELEASE MEASURES

**For Small Spills:**

Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill. Remove all sources of ignition. NO SMOKING.

**For Large Spills (drums or larger):**

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). NO SMOKING.
Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water. Prevent spilled material from spreading. Immediately notify authorities of any reportable spill as may be required pursuant to regulations. See Section 15 for applicable CERCLA reportable quantities. Scrape or pump spilled

product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other waste materials to waste containers for disposal.

## 7. HANDLING AND STORAGE

**Handling Information:**

Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconditioner or properly disposed.

**Storage Information:**

Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 75°F (25°C). Copper or copper containing alloys should be avoided as containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Hazardous Component Control Parameters –**

| Component | CAS. No. | EINECS | Percent | Exposure Limits | Source |
|---|---|---|---|---|---|
| Vinyl Toluene | 25013-15-4 | 246-562-2 | 15% - 20% | 242 mg/m3 TWA | ACGIH |
| | | | | 100 ppm STEL | ACGIH |
| | | | | 100 ppm or 480 mg/m3 8 hr TWA | OSHA PEL |

**Engineering Controls:**

Local ventilation may be required during certain operations to maintain concentrations below recommended exposure limits. Use explosion-proof ventilation equipment.

**Eye Protection:**

Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

**Skin Protection:**

Wear chemical resistant gloves such as polyvinyl alcohol or Viton®. If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage. The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:**

A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure airsupplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance : | Thixotropic Paste |
| Color : | White, Black, Grey |
| Odor : | Pungent Odor |
| Specific gravity : | 1.57 – 1.59 |
| Vapor pressure : | 1.1 (mm Hg) at 68°F (20 °C) Vinyl Toluene |
| Boiling point/range : | Not Determined |
| Freezing point/range : | Not Determined |
| Water solubility : | Components are Not Readily Soluble in Water |
| pH : | Not Determined |
| Flash point : | 127° F (53 ° C) |
| Auto-ignition temp. : | 914° F (490° C) |
| Flammability-LFL : | 1.1 % in air Vinyl Toluene |
| Flammability-UFL : | 5.2 % in air Vinyl Toluene |

## 10. STABILITY AND REACTIVITY

**Stability:**
Stable at normal temperatures and storage conditions.

**Incompatibility:**
Avoid contact with strong acids, oxidizing agents (peroxides), metal salts and polymerization catalysts.

**Hazardous Decomposition Products:**
Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

**Hazardous Polymerization:**
Product will undergo hazardous polymerization at temperatures above 150 F (65 C). Hazardous polymerization will occur if contaminated with peroxides, metal salts and polymerization catalysts.

## 11. TOXICOLOGICAL INFORMATION

| Ingredient Name | CAS No. | % | Test | Result | Route | Species |
|---|---|---|---|---|---|---|
| m-Tolyldiethanolamine | 91-99-6 | 0.5% - 1% | LD50 | 0.8 – 3.1 g/kg | Oral | Rat |
| Vinyl Toluene | 25013-15-4 | 15% - 20% | LD50 | 3,000 mg/m$^3$ | Inhalation | Mouse |
| | | | LD50 | 4000 g/kg | Oral | Rat |
| | | | LD50 | 4500 mg/kg | Dermal | Rabbit |

-No Further Information Available-

**Acute Eye Toxicity:**
Vinyl toluene: (rabbit), undiluted, slight conjunctival irritation, no corneal injury.

**Acute Skin Toxicity:**
Vinyl toluene monomer: dermal LD50 (rabbit), 4,500 mg / kg.

**Acute Inhalation Toxicity:**
Vinyl toluene monomer: inhalation LC50 (mouse), 3,000 mg / cu m. Human subjects noted ocular and upper respiratory tract irritation at a 400 ppm vinyl toluene concentration; strong objectionable odor at 300 ppm; and strong, tolerable odor at 200 ppm. At 50 ppm, the odor was detectable, but there was no irritation of the mucous membranes. The odor was reported to be undetechtable at less than 10 ppm.

**Acute Oral Toxicity:**
Vinyl toluene: oral LD50 (rat), 4,000 mg / kg; (mouse), 3.16 g / kg.

**Subchronic:**
Vinyl toluene exhibited a central nervous system (CNS) depressant effect during exposure of mice, rats, guinea pigs and rabbits by various routes (oral, inhalation and skin). During repeated exposure for 1 month, vinyl toluene had some effect on the CNS of mice, and during chronic inhalation at 0.03 mg/L it caused a reduction in weight of mice and symptoms of intoxication in the offspring of guinea pigs. Vinyl toluene inhalation (1250 ppm, 7-8 hr/day for 92 - 100 days) increases kidney and liver weights and causes fatty degeneration of these organs in rats, guinea pigs, rabbits and monkeys. Exposure to 600 ppm did not cause any microscopic or macroscopic organ changes. A 12 week inhalation administration of 300 ppm vinyl toluene causes slight increases in secondary lysosomes in the rat liver.

**Chronic/Carcinogenicity:**
This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the United States Occupational Safety and Health Administration (OSHA) as a carcinogen. The International Agency for Research on Cancer (IARC) has classified vinyl toluene in Group 3, not classifiable as to its carcinogenicity to humans. The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the listing of Vinyl Toluene as "A4-Not Classifiable as a Human Carcinogen." There is inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

**Sensitization:**
No information is available.

**Teratology:**
Subchronic inhalation of 6 ppm (29 mg/cu m) vinyl toluene by guinea pigs for 4 months produced teratogenic effects.

**Reproduction:**
No information is available.

**Mutagenicity:**
Vinyl toluene was tested for potential to induce chromosome aberrations and sister chromatid exchange in phytohemagglutinin-stimulated human lymphocytes cultured for 48 hours (aberration analysis) or 72 hour (sister chromatid exchange analysis). The treatments were carried out 24 hour (aberrations) or 48 hour (sister chromatid exchange) before harvest. The toxicity of vinyl toluene was similar to that of styrene. Chromosome aberrations were observed in cells treated with 0.33 to 4.00 mmolar vinyl toluene. Like styrene, vinyl toluene is converted in vitro to reactive metabolites, presumably epoxides.

## 12. ECOLOGICAL INFORMATION

Persistence/degradability:

This material contains components that show little or no evidence of biodegradability. Great Caution should be taken to prevent release to the environment. See Section 13 for further information.

Ecotoxicity Data:

| Chemical Name | CAS No. | % | Test | Concentration | Result | Species |
|---|---|---|---|---|---|---|

-No data available-

Individual components of this mixture have been independently tested by the raw material suppliers and any known results have been presented above. The results for the individual components may not be representative of the ecological toxicity of this finished product. This finished product has not been tested to determine individual toxicological/ecological limits Great Caution should be taken to prevent release to the environment. See Section 13 for further information.

## 13. DISPOSAL CONSIDERATIONS

**Disposal**

Preferred method of disposal includes incineration under controlled conditions in accordance with all local and national laws and regulations. The generation of waste should be avoided or minimized wherever possible. Untreated material is not suitable for disposal. Waste, even small quantities, should never be poured down drains, sewers or water courses. Waste must be disposed of in accordance with federal, state and local environmental control regulations

**Contaminated packaging**

Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container walls.

**European waste catalogue No:**

07 02 99 wastes not otherwise specified

## 14. TRANSPORT INFORMATION

**Land**

Proper Shipping Name: Liquid Plastic, NOI (Not Regulated)

**Air/Sea/Rail**

Proper Shipping Name: Resin Solution
UN Number: UN-1866
Hazard Class: 3
Packing Group: III

## 15. REGULATORY INFORMATION

**Occupational Safety and Health Act (OSHA):**

This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III: Section 304 - CERCLA:**

Reportable Quantities have NOT been established for any of this material's components.

**SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):**

This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, and FLAMMABILITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

**SARA Title III: Section 313 Toxic Chemical List (TCL):**

This product does not contain Section 313 Reportable Ingredients.

**TSCA Section 8(b) - Inventory Status:**

All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

**TSCA Section 12(b) - Export Notification:**

This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

**Canadian Inventory Status:**

This material contains components that are listed on the Canadian Domestic Substances List (DSL) and on the Canadian Non-Domestic Substances List (NDSL).

**Canadian WHMIS:**

This material is classified by the Canadian Workplace Hazardous Material Information System as: B3 (combustible liquid), D2A (materials causing other toxic effects, very toxic material), and D2B (materials causing other toxic effects, toxic material)

Revision Date: 06/20/07

**European Inventory Status (EINECS):**

The polymer portion of this product is manufactured from reactants which are listed on EINECS and meets the EINECS ' definition of an exempt polymer.

**California Proposition 65:**

This product is not known to contain any chemicals listed by the State of California (Safe Drinking Water and Toxic Enforcement Act of 1986) to cause cancer or reproductive toxicity.

**Additional Canadian Regulatory Information:**

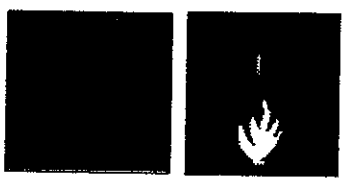
The following chemicals are listed on the WHMIS Ingredient Disclosure List: Vinyl Toluene (CAS# 25013-15-4)

**Classification according to EC-regulations:**

The product has been classified and labelled in accordance with EC Directives.

**Code letter and hazard designation of product:**

**Xn** **F**



Hazard Symbol: Xn-Harmful; F-Flammable

Hazard-determining components of labeling: Vinyl Toluene

| | | |
|---|---|---|
| Risk phrases: | R10: | Flammable |
| | R20: | Harmful by inhalation |
| | R36/37/38: | Irritating to eyes, respiratory system and skin |
| Safety phrases: | S3/7/9: | Keep containers tightly closed in a cool, well-ventilated place |
| | S23: | Do not breathe vapor |
| | S36/37: | Wear suitable protective clothing and gloves |
| | S43: | In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water. |
| | S60: | This material and its container must be disposed of as hazardous waste |

**CHIP 3**

CHIP3 Regulations have been applied and meets all requirements.

## 16. OTHER INFORMATION

No Other Information

To the best of our knowledge, the information contained herein is accurate. Final determination of the suitability of any material is the sole responsibility of the users. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

# Material Safety Data Sheet

**24 Hour Assistance:**
**1-847-367-7700**
**Rust-Oleum Corp.**
**www.rustoleum.com**

## Section 1 - Chemical Product / Company Information

Product Name: Painters Touch Aerosol Top Coats

Revision Date: 01/28/2008

Identification Number: 1925830, 1931830, 1941830, 1952830, 1961830, 1962830, 1965830, 1922830, 1926830, 1930830, 1933830, 1938830, 1945830, 1946830, 1949830, 1950830, 1953830, 1963830, 1964830, 1966830, 1974830, 1976830, 1977830, 1979830, 1982830, 1986830, 1992830, 1994830, 1995830, 1996830, 1924830, 1927830, 1934830, 1947830, 1948830, 1951830, 1971830, 1972830, 1973830, 1975830, 1990830, 1993830, 1970830, 225191, 224356, 224357, 224358, 224359, 240255, 240217, 240268, 239242, 239243, 239244, 239245, 240250, 240251, 240252, 240253, 240254, 240256, 240257, 240258, 240259, 240260, 240262, 240263, 240264, 240265, 240266, 240267, 240269, 240280, 240281, 240282, 240283, 240554, 244895

Product Use/Class: Topcoats/Aerosol

Supplier: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

## Section 2 - Composition / Information On Ingredients

| Chemical Name | CAS Number | Weight % Less Than | ACGIH TLV-TWA | ACGIH TLV-STEL | OSHA PEL-TWA | OSHA PEL-CEILING |
|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 40.0 | 500 PPM | 750 PPM | 750 PPM | N.E. |
| Liquefied Petroleum Gas | 68476-86-8 | 35.0 | 1000 PPM | N.E. | 1000 PPM | N.E. |
| Toluene | 108-88-3 | 25.0 | 50 PPM | 150 PPM | 200 PPM | 300 PPM |
| Aliphatic Petroleum Distillates | 64742-48-9 | 20.0 | 400 PPM | N.E. | 400 PPM | N.E. |
| Titanium Dioxide | 13463-67-7 | 20.0 | 10 mg/m3 | N.E. | 10 mg/m3 | N.E. |
| Xylene | 1330-20-7 | 15.0 | 100 PPM | 150 PPM | 100 PPM | N.E. |
| Aromatic Solvent | 64742-95-6 | 10.0 | N.E. | N.E. | N.E. | N.E. |
| Naphtha | 8032-32-4 | 10.0 | 300 PPM | N.E. | N.E. | N.E. |
| Stoddard Solvents | 8052-41-3 | 10.0 | 100 PPM | N.E. | 500 PPM | N.E. |
| Magnesium Silicate | 14807-96-6 | 10.0 | 10 mg/m3 | N.E. | 15 mg/m3 | N.E. |
| Ethylbenzene | 100-41-4 | 5.0 | 100 PPM | 125 PPM | 100 PPM | N.E. |
| Aluminum Flake | 7429-90-5 | 5.0 | 10 mg/m3 | N.E. | 15 mg/m3 | N.E. |
| Aromatic Hydrocarbon | 64742-95-6 | 5.0 | N.E. | N.E. | N.E. | N.E. |
| Ethylene Glycol Monobutyl Ether | 111-76-2 | 5.0 | 20 PPM | N.E. | 50 PPM | N.E. |
| 1,2,4-Trimethylbenzene | 95-63-6 | 5.0 | 25 PPM | N.E. | N.E. | N.E. |
| Calcined Aluminum Silicate | 1332-58-7 | 5.0 | 2 mg/m3 | N.E. | 5 mg/m3 | N.E. |
| Pigment Red 122 | 980-26-7 | 5.0 | 15mg/m3 | N.E. | 5mg/m3 | N.E. |
| Pigment Black 7 | 1333-86-4 | 5.0 | 3.5 mg/m3 | N.E. | 3.5 mg/m3 | N.E. |
| Pigment Violet 32 | 12225-08-0 | 1.0 | N.E. | N.E. | N.E. | N.E. |

## Section 3 - Hazards Identification

*** Emergency Overview ***: Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapors may cause flash fire or explosion. Contents Under Pressure. Extremely flammable liquid and vapor. Harmful if swallowed.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: May be harmful if absorbed through skin. Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing vapors or mists.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula.
May cause central nervous system disorder (e,g.,narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Overexposure to toluene in laboratory animals has been associated with liver abnormalities, kidney, lung and spleen damage. Effects in humans have included liver and cardiac abnormalities. Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hampster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.
Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Govermental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

## Section 4 - First Aid Measures

First Aid - Eye Contact: Hold eyelids apart and flush with plenty of water for at least 15 minutes. Get medical attention.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

## Section 5 - Fire Fighting Measures

Flash Point: -156 F
(Setaflash)

LOWER EXPLOSIVE LIMIT: 0.7 %
UPPER EXPLOSIVE LIMIT : 32.5 %

Extinguishing Media: Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Perforation of the pressurized container may cause bursting of the can. Isolate from heat, electrical equipment, sparks and open flame. Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

## Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust.

## Section 7 - Handling And Storage

Handling: Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Use only in a well-ventilated area. Wash hands before eating. Wash thoroughly after handling. Avoid breathing vapor or mist.

Storage: Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

## Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Use explosion-proof ventilation equipment. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

## Section 9 - Physical And Chemical Properties

| | | | |
|---|---|---|---|
| Boiling Range: | -34 - 999 F | Vapor Density: | Heavier than air |
| Odor: | Solvent Like | Odor Threshold: | ND |
| Appearance: | Liquid | Evaporation Rate: | Faster than Ether |
| Solubility in H2O: | Slight | | |
| Freeze Point: | ND | Specific Gravity: | 0.8110 |
| Vapor Pressure: | ND | PH: | NE |
| Physical State: | Liquid | | |

(See section 16 for abbreviation legend)

## Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Flammable hydrogen gas will evolve when product comes in contact with water or damp air. Heat will be generated. The amount of heat generated will depend upon the volume of material in contact. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

## Section 11 - Toxicological Information

Product LD50: ND

Product LC50: ND

| Chemical Name | LD50 | LC50 |
|---|---|---|
| Acetone | N.D. | N.D. |
| Liquefied Petroleum Gas | N.D. | N.D. |
| Toluene | 636 mg/kg (Oral, Rat) | 49 gm/M3 (Inhalation, Rat) |
| Aliphatic Petroleum Distillates | N.D. | N.D. |
| Titanium Dioxide | >7500 mg/kg (ORAL, RAT) | N.D. |
| Xylene | 4300, mg/kg (Oral Rat) | 5000 ppm/4hr (Inhalation, Rat) |
| Aromatic Solvent | 4700 mg/kg (ORAL, RAT) | 3670 mg/kg (INH, RAT) |
| Naphtha | >5000 mg/kg (ORAL, RAT) | N.D. |
| Stoddard Solvents | N.D. | N.D. |
| Magnesium Silicate | N.D. | TCLo:11mg/m3 inh. |
| Ethylbenzene | 3500 mg/kg (ORAL, RAT) | N.D. |
| Aluminum Flake | N.D. | N.D. |
| Aromatic Hydrocarbon | N.D. | N.D. |
| Ethylene Glycol Monobutyl Ether | 1519 mg/kg (ORAL, MOUSE) | 700 PPM (INH 7 Hr, RAT) |
| 1,2,4-Trimethylbenzene | N.D. | 18000 mg/m3 (RAT, 4 HR) |

| | | |
|---|---|---|
| Calcined Aluminum Silicate | 5000 mg/kg (ORAL RAT) | N.D. |
| Pigment Red 122 | N.D. | N.D. |
| Pigment Black 7 | >8000 mg/kg (ORAL, RAT) | N.D. |
| Pigment Violet 32 | >10000 mg/kg (ORAL, RAT) | N.D. |

## Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

## Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

## Section 14 - Transportation Information

| | | | |
|---|---|---|---|
| DOT Proper Shipping Name: | Aerosols | Packing Group: | --- |
| DOT Technical Name: | --- | Hazard Subclass: | --- |
| DOT Hazard Class: | 2.1 | Resp. Guide Page: | 126 |
| DOT UN/NA Number: | UN1950 | | |

## Section 15 - Regulatory Information

**CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

**SARA Section 313:**

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

| Chemical Name | CAS Number |
|---|---|
| Toluene | 108-88-3 |
| Xylene | 1330-20-7 |
| Ethylbenzene | 100-41-4 |
| Ethylene Glycol Monobutyl Ether | 111-76-2 |
| 1,2,4-Trimethylbenzene | 95-63-6 |

**Toxic Substances Control Act:**

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None known

## U.S. State Regulations: As follows -

**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

| Chemical Name | CAS Number |
|---|---|
| Modified Alkyd | PROPRIETARY |

**Pennsylvania Right-to-Know:**

The following non-hazardous ingredients are present in the product at greater than 3%.

| Chemical Name | CAS Number |
|---|---|
| Modified Alkyd | PROPRIETARY |
| Modified Alkyd | PROPRIETARY |
| Acrylic Copolymer | PROPRIETARY |
| Barium Sulfate | 7727-43-7 |
| Calcium Carbonate | 1317-65-3 |
| Yellow Iron Oxide | 51274-00-1 |
| Iron Oxide | 1309-37-1 |

**California Proposition 65:**

WARNING! This product contains a chemical(s) known by the State of California to cause cancer.

WARNING! This product contains a chemical(s) known to the state of California to cause birth defects or other reproductive harm.

## International Regulations: As follows -

**CANADIAN WHMIS:**

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**CANADIAN WHMIS CLASS:** AB5, D2A, D2B

## Section 16 - Other Information

**HMIS Ratings:**

Health: 2* Flammability: 4 Reactivity: 0 Personal Protection: X

**VOLATILE ORGANIC COMPOUNDS, g/l:** NA

**REASON FOR REVISION:** Regulatory Update

**Legend**: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

# DESCRIPTIVE FEATURES OF PARKER'S
# O-Lube

5/19/15

**Description:** Barium Grease

| | |
|---|---|
| **Water Content** | 0.2% max |
| **Grease Number** | #2 NLGI |
| **Pour Point (open cup)** | 485°F max |
| **Flash Point (open cup)** | 435°F min |
| **Fire Point** | 485°F min |
| **ASTM D217 Penetration @ 77°F** | 265-295 |
| **ASTM Drop Point** | 400°F min |
| **ASH Sulfate** | 14.25% max |
| **Specific Gravity** | Less than 1.0 (.9007 to .9129) |

**Physical Data:**

| | |
|---|---|
| Boiling Point (°F) | 700 |
| Specific Gravity | Less than 1.0 |
| Vapor Pressure | N/A |
| Percent, Volatile by Volume (%) | N/A |
| Vapor Density (Air = 1) | N/A |
| Evaporation Weight | Less than 1.0 |
| Solubility in Water | Negligible |
| Appearance and Odor | Semi-Solid, Amber Color, No Odor |

# PARKER SUPER O-LUBE
# SAFETY DATA SHEET

*Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)*

5/19/15

## Section I

| | |
|---|---|
| **Product Name:** | Parker O-Lube |
| **Recommended Use:** | Lubricant (not for incidental food contact ormedical purpose) |
| **Company:** | Parker Hannifin Corp., O-Ring Division<br>2360 Palumbo Drive, PO Box 11751<br>Lexington, KY 40512 |
| **Emergency Telephone No.** | (859) 269-2351 |

## Section II - Hazards Identification

| | |
|---|---|
| **Classification:** | Category 5, Acute Toxicity – No Symbol |
| **Labeling:** | Symbol: None<br>Signal Word: Warning<br>Hazard Statements: May be harmful if swallowed; May cause eye irritation; May cause skin irritation. |
| **Precautionary Statements:** | Use personal protective equipment as required. Wear safety glasses and gloves. Avoid contact with eyes. Nonflammable or combustible, but may burn if involved in a fire. |

## Section III – Composition/Information on ingredients

| | |
|---|---|
| **Chemical Identity:** | Barium Fatty Acid Complex, 13-17% |
| **Common Name:** | None |
| **CAS Number:** | 68201-19-4 |
| **Impurities:** | No information provided by manufacturer |
| **Chemical Identity:** | Mineral Oil, 83-87% |
| **Common Name:** | None |
| **CAS Number:** | 64742-52-5 |
| **Impurities:** | No Information provided by manufacturer |

## Section IV – First Aid Measures

| | |
|---|---|
| **Eye Contact:** | Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention. Obtain medical attention. |
| **Skin Contact:** | Wash affected area with soap and water. If signs/symptoms persist, get medical attention. No need for first aid is anticipated. |
| **Inhalation:** | If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention. |
| **Ingestion:** | If swallowed, do not induce vomiting. If irritation or discomfort occurs, obtain medical attention. |

## Section V – Fire Fighting Measures

**Autoignition Temperature:** >200°C (392°F)
**Flash Point:** >176°C (348°F)
**Flammable Limits (LEL):** Not Determined
**Flammable Limites (UEL):** Not Determined

**Suitable Extinguishing Media:** On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.

**Unsuitable Extinguishing Media:** None

**Specific hazards in case of fire:** Decomposes on heating and can release formaldehyde. Avoid reaction with oxidizers.

**Special protective equipment and precautions for the fire fighters:**

No acute hazard. Move container from fire area if possible. Avoid breathing vapors and dusts. Keep upwind. Use full firefighting gear (bunker gear). Any supplied-air respirator with full face piece and operated in a pressure-demand or other positive pressure mode in combination with a separate escape air supply. Use any self-contained breathing apparatus with a full face piece.

Alert fire brigade and indicate hazard location. Wear breathing apparatus plus protective clothing. Cool fire exposed containers with water spray from a protected location. Do not approach containers suspected to be hot. If so to do so, remove containers from path of fire.

## Section VI – Accidental Release Measures

**Personal precautions:** Use appropriate person protection. (See section 8)

**Environmental precautions:** For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected materials as soon as possible.

**Methods for material containment and cleaning up:**

Observe precautions from other sections. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent. Seal the container.

## Section VII – Handling and Storage

**Precautions for safe handling:** Avoid contact with skin, inhalation of mist, or ingestion. See section

8 for personal protection equipment. Practice good personal hygiene to prevent accidental ingestion after handling. Properly dispose of clothing that cannot be decontaminated.

**Conditions for safe storage, including any incompatibilities:**

Store away from oxidizing materials. Store product in a closed container located in a dry area. Do not store in open, inadequate, or mislabeled packaging. Check that containers are clearly labeled. Use metal cans, metal drums, plastic, or lined fiber containers. Keep away from heat and flame.

## Section VIII – Exposure Controls / Personal Protection

**Control parameters:** Under most handling conditions, this product will not generate mist or dust.

**Engineering controls:** In most conditions, no special local ventilation is needed. General ventilation recommended. If the product is heated about 150°F or atomized, ventilation should be used.

**Personal Protective Equipment (PPE):**

**Eyes:** Safety glass recommended

**Skin:** Impermeable gloves should be worn. Product is compatible with most elastomers.

**Inhalation:** No respiratory protection required under most conditions. If concentrations exceed exposure limits, approved respiratory equipment must be used.

## Section IX – Chemical and Physical Properties

| | |
|---|---|
| **Physical State:** | Solid. Liquid may separate from product |
| **Color:** | Amber |
| **Odor:** | Mild |
| **Odor Threshold:** | Not available |
| **pH Value:** | Not applicable |
| **Melting Point:** | 204°C |
| **Freezing Point:** | Becomes very stiff with decreasing temperature around -20°C |
| **Initial Boiling Point:** | >200°C |
| **Flash Point:** | 176°C COC (base oil) |
| **Evaporation Rate:** | Not available |
| **Flammability (solid, gas):** | Not applicable |
| **Explosion Limits:** | Not available |
| **Vapor Pressure:** | Negligible at 20 °C |
| **Vapor Density:** | Not available |
| **Solubility:** | Insoluble in water at 20°C |
| **Partition Coefficient:** | Not available |
| **Auto-ignition Temperature:** | Not available |
| **Decomposition Temperature:** | Begins to oxidize at a slow rate at 125°C |

## Section X – Stability and Reactivity

**Chemical Stability:** Stable under ambient temperatures and pressures.

**Possibility of hazardous reactions:** Can react with strong oxidizers. Other hazardous reactions have not

been identified. Otherwise will not react or polymerize.

**Conditions to Avoid:** No specific conditions to avoid have been identified.

**Materials to Avoid:** Oxidizers

**Hazardous decomposition products:** Decomposes on heating and produces formaldehyde, silicone dioxide, and completely burned carbon dioxide.

## Section XI – Toxicological Information

**Toxicity:**

**Barium Acetate (Similar material to barium fatty acid complex)**

Ingestion $LD_{50}$ (rat) 921 mg/kg
Causes damages to lungs, nervous system, and mucous membranes. Very hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant). Excreted in maternal milk in animal. Passes though placental barrier in human.

**Mineral Oil**

Ingestion $LD_{50}$ (rat) >5,000 mg/kg, Dermal $LD_{50}$ (rabbit) >5,000 mg/kg, Inhalation $LC_{50}$ (rat) >5 mg/L 4h Expected to be slightly irritating to skin and eyes. Inhalation of vapors can cause irritation to the respiratory system. Not expected to be skin sensitizer or aspiration hazard. Not considered to be mutagenic hazard. Not classified as carcinogenic.

## Section XII – Ecological Information

**Toxicity:**

**Barium Fatty Acid Complex**

Water soluble barium compounds formed after chemical break down are significantly more hazardous than the material as supplied.

**Mineral Oil**

Practically nontoxic to fish, aquatic invertebrates, algae, and microorganisms $LL/EL/IL_{50}$ >100 mg/L Chronic toxicity for fish NOEC/NOEL > 100 mg/L, aquatic invertebrates NOEC/NOEL >1.0 - <= 10 mg/L

## Section XIII – Disposal Procedures

**Waste treatment methods:** Waster (substance and container material) shall be recycled/recovered or disposed of as applicable and in accordance with community (EU) and local legislation. Recycle wherever possible. Consult state land waste management authority for disposal. Bury at an approved site. Recycle containers if possible, or dispose of in an authorized landfill.

**According to the European Waste Catalogue:**

Waster codes are not product specific but application specific. Waste codes should be assigned by the user based on the application in which the product is used.

**For USA Disposal:** Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

## Section XIV – Transport Information

**Class or Type:** US DOT, IMO, ADR, RID, ADN, IMDG, and IATA: Non-hazardous

## Section XV – Regulatory Information

**Safety health and environmental regulations/legislations specific for the mixture:**
**Other Information:**
**U.S. Regulatory information**

| | |
|---|---|
| TSCA Inventory Status: | Y |
| TSCA 12 (b) Export Notification: | Not listed |
| CERCLA Section 103 (40 CFR 302.4): | N |
| SARA Section 302 (40 CFR 355.30): | N |
| SARA Section 304 (40 CFR 355.40): | N |
| SARA Section 313 (40 CFR 372.65): | Barium compounds 68201-19-4 |
| OSHA Process Safety (29 CFR 1910.119): | N |
| SARA Hazard Categories, SARA Sections 311/312 (40 CFR 370.21)- | |
| Acute Hazard: | N |
| Chronic Hazard: | N |
| Fire Hazard: | N |
| Reactivity Hazard: | N |
| Sudden Release Hazard: | N |

**State Regulations:** Not on California Proposition 65 List. Does not contain any contaminants or by-products known to the State of California to cause cancer or reproductive toxicity.

**Note:** There are no known safety, health, or environmental restrictions or prohibitions in any country where this product is produced, imported or marketed.

**Chemical Inventories:**

| | |
|---|---|
| **DSL (Canada)** | All ingredients listed or exempt |
| **EINECS (European Union)** | All ingredients listed or exempt |
| **ENCS/ISHL (Japan)** | All ingredients listed or exempt |
| **IECSC (Peoples Republic of China)** | All ingredients listed or exempt |
| **TSCA (United States of America)** | All ingredients listed or exempt |

## Section XVI – Other Information

**NFPA Hazard Classification:**

| | |
|---|---|
| **Health:** | **2** |
| **Flammability:** | **1** |
| **Reactivity:** | **0** |
| **Special Hazards:** | **None** |

National Fire Protection Associations (NFPA) hazard ratings are designed for use by emergency personnel to address the hazards that are presented by short-term, acute exposer to material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification:**

| | |
|---|---|
| **Health:** | **2** |
| **Flammability:** | **1** |
| **Reactivity:** | **0** |
| **Protection:** | **B (See PPE)** |

Hazardous Material Identification System (HMIS) hazard ratings are designed to inform employees of chemical hazards in the workplace. The ratings are based on inherent properties of the material under expected conditions of normal use and not intended for use in emergency situations.

Prepared by:

Parker Hannifin: O-Ring Division
2360 Palumbo Drive
Lexington, KY 40509

Email: ORDmailbox@parker.com
Phone: (859) 335-5101

**SAFETY DATA SHEET**

**PARTALL® Film #10**

Version 1.3 SDS EN | Revision Date: 11 May 2015 | Print Date: 13 May 2015

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name: PARTALL® Film #10

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Mold release agent

### 1.3 Details of the supplier of the safety data sheet

Company: REXCO
P.O. Box 80996
Conyers, Georgia 30013
U.S.A.
Telephone: + 1 770 483 7610
Fax: + 1 770 483 8550
Email: info@rexco-usa.com

### 1.4 Emergency telephone number

ChemTrec (24 hour): 1-800-424-9300 (USA and Canada)
+1-703-527-3887 (Outside USA and Canada; collect calls accepted)

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

| Hazard Statement Code | Hazard Class | Hazard Category |
|---|---|---|
| H226 | Flammable liquid and vapour | 3 |
| H302 | Acute Toxicity – Oral | 4 |
| H312 | Acute Toxicity – Dermal | 4 |
| H332 | Acute Toxicity – Inhalation | 4 |
| H320 | Eye Damage/Irritation | 2B |

### 2.2 Label Elements

Signal word: Warning

Hazard pictograms:

Hazard statements

| Hazard Statement Code | Hazard Statement |
|---|---|
| H226 | Flammable liquid and vapor |
| H302 + H312 + H332 | Harmful if swallowed, in contact with skin or if inhaled. |
| H320 | Causes eye irritation |

Precautionary statements

| Precautionary Statement Code | Precautionary Statement |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/Bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting/equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing fume/mist/vapours/spray. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/eye protection/face protection. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P330 | Rinse mouth. |
| P331 | Do NOT induce vomiting. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P370 + P378 | In case of fire: Use dry chemicals, $CO_2$, water fog, water spray, or alcohol-resistant foam. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P501 | Dispose of contents/container to an approved waste disposal plant in accordance with local, regional, and national regulations. |

## 3. Composition/information on ingredients

### 3.2 Mixtures

Chemical nature: Mixture

**Hazardous components**

| Chemical Name | CAS-No. | EC-No. | Classification | Concentration [%] |
|---|---|---|---|---|
| Ethanol | 64-17-5 | 200-578-6 | H225: Flammable Liquid, 2 | ≥ 30 - ≤ 35 |
| n-Butanol | 71-36-3 | 200-751-6 | H226: Flammable Liquid, 3 | ≥ 1 - ≤ 2 |

## 4. First aid measures

### 4.1 Description of first aid measures

General advice: Do not leave victim unattended. Show this safety data sheet to doctor in attendance.

In case of eye contact: Flush immediately with cold water for 15 minutes. Remove contact lenses. Keep eye wide open while rinsing. Get prompt medical attention.

In case of skin contact: Remove contaminated clothing and wash affected area with soap and warm water. If irritation persists, seek medical attention. Launder contaminated clothing and shoes prior to reuse.

If inhaled: Expose individual to fresh air and/or oxygen if light-headed or having difficulty breathing. If difficulty breathing persists, seek medical attention.

If swallowed: Seek immediate medical attention. Do not induce vomiting. If spontaneous vomiting occurs keep victim's head below hips to prevent aspiration into lungs. Do not leave individual unattended.

## 5. Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media: Standard procedure for chemical fires. Use dry chemicals, carbon dioxide, water fog, water spray, or alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Water may be unsuitable as an extinguishing media but helpful in keeping adjacent areas cool. Avoid spreading burning liquid with water used for cooling purposes. Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

None

### 5.3 Advice for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus with full face piece and protective clothing. Avoid contact with skin and eyes.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Keep sources of ignition and hot metal surfaces isolated from spill.

### 6.2 Environmental precautions

Prevent product from entering drains. Stop spill at source and prevent further leakage or spillage if safe to do so. If product contaminates rivers and lakes or drains, notify proper authorities.

### 6.3 Methods and materials for containment and cleaning up

Flush spilled material into suitable retaining areas or containers. Small amounts of spilled material may be absorbed with any standard absorbent. Confine spill and place into suitable closed container for disposal. Dispose of in accordance with regional, national, and local laws and regulations.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling: For personal protection see Section 8. Smoking, eating, and drinking should be prohibited in the application area. Empty containers my contain product residue such as vapors; continue to observe safe handling precautions.

Advice on protection against fire and explosion: Normal measures for preventive fire protection. Keep work areas free of hot metal surfaces and other sources of ignition.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Store in cool dry location below 100 °F (38 °C) and away from open flames, heat, and sparks. Keep container tightly closed when not in use. Observe label precautions

## 8. Exposure controls/personal protection

### 8.1 Control parameters

No specific data available for this product.

### 8.2 Exposure controls

Use with adequate ventilation.

**Personal protective equipment**

Hand protection : Wear chemical resistant impervious gloves.

Eye protection: Safety glasses with side shields or goggles are recommended. Eye wash stations are recommended for the work area.

Skin and body protection: Wear impervious clothing and shoes. Safety showers are recommended for the work area.

Respiratory protection: Provide sufficient general and/or local exhaust.

Hygiene measures: Do not eat, drink, or smoke while using. Wash hands before breaks and at the end of workday.

**Environmental exposure controls**

Prevent product from entering drains. Stop spill at source and prevent further leakage or spillage if safe to do so. If product contaminates rivers and lakes or drains, notify proper authorities.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: green or clear liquid

Odour: alcohol

Odour threshold: no data available

pH: 5.0 – 6.9

Melting point/freezing point: no data available

Initial boiling point and boiling range: 158 °F – 220 °F (70 °C – 104 °C)

Flash point: 76 °F (24 °C)

Evaporation rate: no data available

Flammability: flammable liquid

Upper/lower flammability or explosive limits: 18.7% Upper / 3.3% Lower

Vapour pressure: no data available

Vapour density: no data available

Relative density: 0.94 – 0.98 (Water = 1)

Solubility(ies): soluble in water

Partition coefficient: n-octanol/water: no data available

Auto-ignition temperature: 670 °F (354 °C)

Decomposition temperature: no data available

Viscosity: 25 – 70 cps

Volatile organic content (actual VOC): 288 g/L

## 10. Stability and reactivity

### 10.1 Reactivity

Not reactive under normal conditions of use.

### 10.2 Chemical stability

Stable under normal conditions of use.

### 10.3 Possibility of hazardous reactions

No decomposition if stored and applied as directed.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames, hot surfaces, or other sources of ignition.

**10.5 Incompatible materials**

Incompatible with strong oxidizing agents, strong acids or bases, alkali metals, halogens, and strong alkalis.

**10.6 Hazardous decomposition products**

Hazardous decomposition products are not expected to form during normal storage. Normal combustion will produce carbon dioxide and water vapor. Incomplete combustion will produce carbon monoxide and other toxic substances. Decomposition above 200 °C may yield acetaldehyde, crontonaldehyde, and acetone.

## 11. Toxicological information

No data specific to this product is available.

**11.1 Information on toxicological effects**

Acute toxicity: no data available

Skin corrosion/irritation: expected to be slightly irritating

Serious eye damage/irritation: expected to be slightly irritating

Respiratory or skin sensitization: not a skin sensitizer

Germ cell mutagenicity: not considered a mutagenic hazard

Carcinogenicity: not classified as a carcinogen.

Reproductive toxicity: not expected to impair fertility or fetal development.

STOT-single exposure: no data available

STOT-repeated exposure: no data available

Aspiration hazard: aspiration into the lungs may occur if swallowed

## 12. Ecological information

No data specific to this product is available.

**12.1 Toxicity**

Not expected to be toxic

**12.2 Persistence and degradability**

Expected to be inherently biodegradable.

**12.3 Bioaccumulative potential**

No data available

### 12.4 Mobility

No data available

### 12.5 Result of PBT and vPvB assesment

No data available

### 12.6 Other adverse effects

No other adverse effects expected.

## 13. Disposal considerations

Dispose of in accordance with regional, national, and local laws and regulations.

### 13.1 Waste treatment methods

Material disposal: Do not dispose of waste into sewer. Do not contaminate ponds, waterways, or ditches with product or used container. Send to a licensed waste management company.

Container disposal: Empty remaining contents. Dispose of as unused product. Do not reuse empty containers.

## 14. Transport information

| | DOT | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|---|
| **UN Number** | UN1987 | UN1987 | UN1987 | UN1987 | UN1987 |
| **UN Proper Shipping Name** | Alcohols, n.o.s. | Alcohols, n.o.s. | Alcohols, n.o.s. | Alcohols, n.o.s. | Alcohols, n.o.s. |
| **Transportation Hazard Class** | 3 | 3 | 3 | 3 | 3 |
| **Packing Group** | III | III | III | III | III |
| **Transportation Hazard Label** |  |  |  |  |  |
| **Marine Pollutant** | -- | No | No | No | -- |

Additional Information: This product qualifies as a Limited Quantity in the United States under 49 CFR §173.150 for shipment via highway, rail, or ocean freight:

**Land transport**

DOT: Mold release liquid coating; HM-215K Ltd Qty

**Sea transport**

IMDG: UN1987; Alcohols, n.o.s.; 3; PG III; Ltd Qty; Marine Pollutant: No

## 15. Regulatory information

### 15.1 Safety, health, and environmental regulations/legislation specific to the substance or mixture

None

## 16. Other information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not be construed as guaranteeing any specific property of the product. REXCO makes no warranty of any kind, express or implied, including warranties of merchantability or fitness for a particular purpose, concerning the safe use of this material in your process or in combination with other substances. Users should make their own tests and assessments as to the suitability of this product or the information contained herein for their particular purposes and uses.

# Material Safety Data Sheet

# PERMABOND 101

Revision Number: 0 Issue date: 01/31/12

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** PERMABOND 101
**Product type:** Cyanoacrylate

Telephone: 732-868-1372
Website: www.permabond.com

**Company:** PERMABOND LLC
14 Robinson Street
Pottstown, PA 19464
USA

Emergency telephone:
Medical: 866-827-6282
Transport: 800-640-7599

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

**HMIS**

| | | | |
|---|---|---|---|
| **Physical state:** | Liquid | **HEALTH:** | 2 |
| **Color:** | Clear | **FLAMMABILITY:** | 2 |
| **Odor:** | Irritating, Sharp | **PHYSICAL HAZARD:** | 1 |
| | | **Personal Protection:** | See Section 8 |

**WARNING:** BONDS SKIN ON CONTACT
MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION
COMBUSTIBLE LIQUID AND VAPOR

**Relevant routes of exposure:** Skin, Inhalation, Eyes

**Potential Health Effects**

| | |
|---|---|
| **Inhalation:** | Exposure to vapors above the exposure limits causes irritation to the respiratory tract, which may lead to difficulty of breathing and tightness of chest. |
| **Skin contact:** | Bonds skin in seconds. May cause skin irritation. Cyanoacrylates have been reported to cause skin allergic reaction but due to the rapid polymerization upon skin contact, an allergic reaction is rare. |
| **Eye contact:** | Irritating to eyes. May cause excessive tearing. On contact, will bond eyelids. |
| **Ingestion:** | Not expected to be harmful by ingestion. On contact, immediate bonding of the mouth may occur. It is almost impossible to swallow. |
| **Existing conditions aggravated by exposure:** | Skin, eye and respiratory disorders. |

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous components | CAS NUMBER | CONCENTRATION (%) |
|---|---|---|
| Ethyl 2-cyanoacrylate | 7085-85-0 | 60 – 100 |

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If symptoms persist, get medical attention.

**Skin contact:** Do not pull bonded skin apart as bonded skin can be easily torn. Soak in warm soapy water while flexing bonded skin followed by gently peeling skin apart. If skin is burnt due to the heat generated during the rapid polymerization of a large drop, seek medical attention. If lips are bonded apply warm water to the lips and encourage the use of saliva to wet the interior. Gently peel or roll the lips apart. Do not use direct opposing force to peel the lips apart.

**Eye contact:** Immediately flush with large amounts of water for at least 15 minutes. Get medical attention. If eyes are bonded closed, apply warm water using a wet pad to release eyelashes. Do not force eye open. Cyanoacrylates will cause a lachrymatory effect which will help to debond the adhesive. Keep the eye covered until debonding is completed usually 1- 3 days. Get medical attention to make sure cured adhesive is not trapped behind eyelid.

**Ingestion:** Keep individual calm. Make sure breathing passage ways not abstracted. The product will polymerize almost instantaneously bonding the mouth making it almost impossible to swallow. Saliva will debond and separate any cured material in several hours. Prevent patient from swallowing any separated cure material.

**Notes to Physician:** Surgery is not necessary to separate accidentally bonded tissues. Experience has shown that bonded tissues are best treated by passive non-surgical first aid. If rapid curing has caused thermal burn they should be treated symptomatically after adhesive is removed.

## 5. FIRE-FIGHTING MEASURES

**Flash point:** 80°C– 93.3°C (176°F – 199.94°F) Tagliabue closed cup
**Autoignition temperature:** 485°C (908°F)
**Flammable/Explosive limits-lower %:** Not determined
**Flammable/Explosive limits-upper %:** Not determined
**Extinguishing media:** Foam, water spray or fog, dry chemical or carbon dioxide.
**Special fire fighting procedures:** Fire fighter should wear positive pressure self-contained breathing apparatus.
**Unusual fire or explosion hazards:** None
**Hazardous combustion products:** Toxic and/or irritating organic vapors may be generated.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection equipment recomended in section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions**: Ventilate area. Prevent product from entering drains or waterways.

| | |
|---|---|
| **Clean-up methods:** | Do not use cloths to mop spills. Flood area with plenty of water to insure complete polymerization. When cured scrape off the floor for disposal. Cured material can be disposed of as non-hazardous waste |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling:** | Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep away from fabric and paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors and cause thermal burns. |
| **Storage:** | Store away from heat, sparks, flames, or other sources of ignition.<br>For shelf life information contact Permabond customer service at (800)714-0170 |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employees should complete an assessment of all workplaces to determine the need for and selection of proper exposure controls and protective equipment before each task is started.**

| Hazardous components | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Ethyl 2-cyanoacrylate | 0.2 ppm TWA | None | None | None |

| | |
|---|---|
| **Engineering controls:** | Use positive down draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentrations below established exposure limits. |
| **Respiratory protection:** | Use NIOSH approved respirator if there is potential to exceed exposure limit(s). |
| **Skin protection:** | Use nitrile gloves and protective clothing as necessary to prevent skin contact. Do not use PVC, nylon, cloth or cotton gloves |
| **Eye/face protection:** | Safety goggles or safety glasses with side shields or face shield |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical state:** | Liquid |
| **Color:** | Clear |
| **Odor:** | Sharp irritating |
| **Odor threshold:** | Not Available |
| **pH:** | Not applicable |
| **Vapor pressure:** | <0.3 mm Hg |
| **Boiling point/range:** | >149ºC (300ºF) |
| **Melting point/range:** | Not determined |
| **Specific gravity:** | 1.05 at 23.9°C (75°F) |
| **Vapor density:** | Approximately 3 |

| | |
|---|---|
| **Flash point:** | 80°C – 93°C (176°F - 199.94°F ) |
| **Flammable/Explosive limits – Lower:** | Not determined |
| **Flammable/Explosive limits – upper:** | Not determined |
| **Autoignition Temperature:** | 485°C (905°F) |
| **Evaporation rate:** | Not available |
| **Solubility in water:** | Polymerizes in water |
| **Partition coefficient (n-octanol/water):** | Not applicable |
| **VOC content:** | <2 %, 20 grams/liter (Estimated) |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable when stored under the recommended storage conditions

**Hazardous reactions:** Rapid exothermic reaction will occur in the presence of water, amines, alkalis and alcohols.

**Hazardous decomposition products:** Upon heating may decompose to release toxic fumes of nitrogen oxides, carbon monoxide and carbon dioxide

**Incompatible materials:** Water, amines, alkalis and alcohols.

**Conditions to avoid:** Contact with incompatible materials which may cause spontaneous polymerization

## 11. TOXICOLOGICAL INFORMATION

Carcinogen Status

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen |
|---|---|---|---|
| Ethyl 2-cyanoacrylate | No | No | No |

| Hazardous components | Health Effects/Target Organs |
|---|---|
| Ethyl 2-cyanoacrylate | Allergen, Irritant, Respiratory |

## 12. ECOLOGICAL INFORMATION

**Ecological information**: Unknown

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Dispose of according to Federal, State and local governmental regulations.

**Hazardous waste number:** Not a RCRA hazardous waste.

Permabond Engineering Adhesives

## 14. TRANSPORT INFORMATION

**U.S. Department of Transportation Ground (49 CFR):**

| | |
|---|---|
| **Proper shipping name:** | Combustible liquid, n.o.s (cyanoacrylate ester) |
| **Hazard class or division:** | Combustible liquid |
| **Identification number:** | NA 1993 |
| **Packing group:** | III |
| **Exceptions:** | Unrestricted, (Not more than 450 L) |

*Please note that Cyanoacrylates are not restricted for domestic ground transportation in non bulk containers (The DOT defines a bulk container as a "Package" containing more than 450 liters. The "Package" is the individual bottle, tube or drum, not a carton containing many bottles.*

**International Air Transportation (ICAO/IATA):**

| | |
|---|---|
| **Proper shipping name:** | Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) |
| **Hazard class or division:** | 9 |
| **Identification number:** | UN 3334 |
| **Packing group:** | None |
| **Exceptions:** | Primary packs containing less that 500 grams are unregulated by this mode of transportation and may be shipped unrestricted |

*Please note that Cyanoacrylates are restricted for air transportation in packages containing more than 500gr. The "Package" is the individual bottle, tube or drum, not a carton containing many bottles. Permabond's 3g, 20gr, 1 ounce(28.4 gr), 1 pound(454gr) and 500gr, are not restricted for air transportation.*

**WaterTransportation (IMO/IMDG):**

| | |
|---|---|
| **Proper shipping name:** | Unrestricted |
| **Hazard class or division:** | None |
| **Identification number:** | None |
| **Packing group:** | None |
| **Marine pollutant:** | None |

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

| | |
|---|---|
| **TSCA 8 (b) Inventory Status:** | All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. |
| **TSCA 12 (b) Export Notification:** | None above the reporting limits. |
| **CERCLA/SARA Section 302 EHS:** | None above the reporting limits. |
| **CERCLA/SARA Section 311/312:** | Immediate Health, Delayed Health, Fire, Reactive |
| **CERCLA/SARA 313:** | None above the reporting limits. |
| **California Proposition 65:** | No chemical listed on the California Proposition 65 are known to be present. |

**Canada Regulatory Information**

| | |
|---|---|
| **CEPA DSL/NDSL Status:** | All components are listed on or are exempt from listing on the Domestic Substances List. |
| **WHMIS hazard class:** | B.3, D.2.B |

## 16. OTHER INFORMATION

This material safety data sheets contains changes from the previous on in sections: New MSDS format

ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

# Safety Data Sheet

# PERMABOND 910

Revision Number: 2 Issue date: 05/05/15

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** PERMABOND 910
**Product Type:** Cyanoacrylate

**Company:** PERMABOND LLC
14 Robinson Street
Pottstown, PA 19464
USA

Telephone: 732-868-1372 or 800-640-7599
Website: www.permabond.com

Emergency Telephone:

Medical: Poison Control Center 866-827-6282 (toll free)
or 1-303-389-1109
Transport: CHEMTREC 800-424-9300

## 2. HAZARDS IDENTIFICATION

**WARNING:**

BONDS SKIN ON CONTACT
MAY CAUSE SKIN IRRITATION
CAUSES EYE IRRITATION
MAY CAUSE RESPIRATORY TRACT IRRITATION
COMBUSTIBLE LIQUID

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| FLAMMABLE LIQUID | 4 |
| EYE IRRITATION | 2B |
| SKIN IRRITATION | 2 |
| SPECIFIC TARGET ORGAN TOXICITY- SINGLE EXPOSURE- RESPIRATORY SYSTEM | 3 |

PICTOGRAM(S)

**Precautionary Statements**

**Prevention:** Keep away from heat, sparks, open flames, hot surfaces – No smoking. Avoid breathing vapors, mist or spray. Wash thoroughly after handling. Use outdoors or in a well-ventilated area. Wear protective gloves, eye protection and face protection.

**Response:** IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with plenty of water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Rinse with plenty of soap and water.
If you feel unwell call a poison control center or a physician. If eye irritation occurs: Get medical attention. If skin irritation occurs: Get medical attention. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

**Storage:** Store in a well-ventilated cool place. Keep container tightly closed. Store locked up.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

| | |
|---|---|
| **Disposal:** | Dispose of according to Federal, State/Provincial and local governmental regulations. |
| **Existing conditions aggravated by exposure:** | Skin, eye and respiratory disorders. |

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous components | CAS NUMBER | CONCENTRATION (%)* |
|---|---|---|
| Methyl 2-cyanoacrylate | 137-05-3 | 60 – 100 |

*Exact concentration is a trade secret. Concentration ranges are provided to assist user in determining appropriate protection.

## 4. FIRST AID MEASURES

| | |
|---|---|
| **Inhalation:** | Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, get medical attention. |
| **Skin contact:** | On contact, immediate bonding of skin will occur. Do not pull bonded skin apart as bonded skin can be easily torn. Soak in warm soapy water while flexing bonded skin followed by gently peeling skin apart. If skin is burnt due to the heat generated during the rapid polymerization of a large drop, seek medical attention. If lips are bonded apply warm water to the lips and encourage the use of saliva to wet the interior. Gently peel or roll the lips apart. Do not use direct opposing force to peel the lips apart. |
| **Eye contact:** | Immediately flush with large amounts of water for at least 15 minutes. Get medical attention. If eyes are bonded closed, apply warm water using a wet pad to release eyelashes. Do not force eye open. Cyanoacrylates will cause a lachrymatory effect which will help to debond the adhesive. Keep the eye covered until debonding is completed usually 1- 3 days. Get medical attention to make sure cured adhesive is not trapped behind eyelid. |
| **Ingestion:** | Keep individual calm. Make sure breathing passage ways not abstracted. The product will polymerize almost instantaneously bonding the mouth making it almost impossible to swallow. Saliva will debond and separate any cured material in several hours. Prevent patient from swallowing any separated cure material. Get medical attention. |
| **Symptoms:** | See section 11 |
| **Notes to Physician:** | Surgery is not necessary to separate accidentally bonded tissues. Experience has shown that bonded tissues are best treated by passive non-surgical first aid. If rapid curing has caused thermal burn they should be treated symptomatically after adhesive is removed. |

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media:** | Foam, water spray or fog, dry chemical or carbon dioxide. |
| **Special fire fighting procedures:** | Fire fighter should wear positive pressure self-contained breathing apparatus. |
| **Unusual fire or explosion hazards:** | None |
| **Hazardous combustion products:** | Trace amount of toxic and/or irritating organic vapors may be generated. The use a breathing apparatus is recommended. |

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection equipment recomended in section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions**: Ventilate area. Prevent product from entering drains or waterways.

**Clean-up methods:** Do not use cloths to mop spills. Flood area with plenty of water to insure complete polymerization. When cured scrape off the floor for disposal. Cured material can be disposed of as non-hazardous waste. Refer to section 8 (Exposure Controls/ Personal Protection) before clean up.

## 7. HANDLING AND STORAGE

**Handling:** Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep away from fabric and paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors and cause thermal burns.

**Storage:** Store away from heat, sparks, flames, or other sources of ignition.

For shelf life information contact Permabond customer service at (800)714-0170

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employees should complete an assessment of all workplaces to determine the need for and selection of proper exposure controls and protective equipment before each task is started.**

| Hazardous components | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Methyl 2-cyanoacrylate | 0.2 ppm TWA | None | None | None |

**Engineering controls:** Use positive down draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentrations below established exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Skin protection:** Use nitrile gloves and protective clothing as necessary to prevent skin contact. Do not use PVC, nylon, cloth or cotton gloves

**Eye/face protection:** Safety goggles or safety glasses with side shields or face shield

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical state:** | Liquid |
| **Color:** | Clear |
| **Odor:** | Sharp irritating |
| **Odor threshold:** | Not Available |
| **pH:** | Not applicable |
| **Vapor pressure:** | <0.3 mm Hg |
| **Boiling point/range:** | >149ºC (300ºF) |
| **Melting point/range:** | Not determined |
| **Specific gravity:** | 1.05 at 23.9°C (75°F) |
| **Vapor density:** | Approximately 3 |
| **Flash point:** | 80°C – 93°C (176°F - 199.94°F ) |
| **Flammable/Explosive limits – Lower:** | Not determined |
| **Flammable/Explosive limits – upper:** | Not determined |
| **Autoignition Temperature:** | 485°C (905°F) |
| **Evaporation rate:** | Not available |
| **Solubility in water:** | Polymerizes in water |
| **Partition coefficient (n-octanol/water):** | Not applicable |
| **Decomposition temperature:** | Not available |
| **VOC content:** | <2 %, 20 grams/liter (Estimated) |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable when stored under the recommended storage conditions |
| **Hazardous reactions:** | Rapid exothermic reaction will occur in the presence of water, amines, alkalis and alcohols. |
| **Hazardous decomposition products:** | Upon heating may decompose to release toxic fumes of nitrogen oxides, carbon monoxide and carbon dioxide |
| **Incompatible materials:** | Water, amines, alkalis and alcohols. |
| **Conditions to avoid:** | Contact with incompatible materials which may cause spontaneous polymerization |

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes

**Potential Health Effects/Symptoms**

| | |
|---|---|
| **Inhalation:** | Exposure to vapors above the exposure limits causes irritation to the respiratory tract, which may lead to difficulty of breathing and tightness of chest. |
| **Skin contact:** | Bonds skin in seconds. May cause skin irritation. Cyanoacrylates have been reported to cause skin allergic reaction but due to the rapid polymerization upon skin contact, an allergic reaction is rare. |
| **Eye contact:** | Irritating to eyes. May cause excessive tearing. On contact, will bond eyelids. |
| **Ingestion:** | Not expected to be harmful by ingestion. On contact, immediate bonding of the mouth may occur. It is almost impossible to swallow. |
| **Existing conditions aggravated by exposure:** | Skin, eye and respiratory disorders. |

| Hazardous components | LD50 | LC50 | Immediate and delayed Health Effects |
|---|---|---|---|
| Ethyl 2-cyanoacrylate | Oral LD50 (Rat): 1.6 g/Kg<br>Rat<br>Dermal LD50 (Guinea pig): 10 ml/kg | None | Allergen, Irritant |

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen |
|---|---|---|---|
| Ethyl 2-cyanoacrylate | No | No | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information**: Not Available

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

| | |
|---|---|
| **Recommended method of disposal:** | Dispose of according to Federal, State/Provincial and local governmental regulations. Refer to section 8 (Exposure Controls/Personal Protection) before handling. |

## 14. TRANSPORT INFORMATION

**U.S. Department of Transportation Ground (49 CFR):**

| | |
|---|---|
| **Proper shipping name:** | Combustible liquid, n.o.s (cyanoacrylate ester) |
| **Hazard class or division:** | Combustible liquid |
| **Identification number:** | NA 1993 |
| **Packing group:** | III |
| **Exceptions:** | Unrestricted, (Not more than 450 L) |

Please note that Cyanoacrylates are not restricted for domestic ground transportation in non bulk containers (The DOT defines a bulk container as a “Package” containing more than 450 liters. The “Package” is the individual bottle, tube or drum, not a carton containing many bottles.

**International Air Transportation (ICAO/IATA):**

| | |
|---|---|
| **Proper shipping name:** | Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) |
| **Hazard class or division:** | 9 |
| **Identification number:** | UN 3334 |
| **Packing group:** | **III** |
| **Exceptions:** | Inner packaging containing less than 500ml are unregulated by this mode of transportation and may be shipped unrestricted. |

Please note that Cyanoacrylates are restricted for air transportation in inner packages containing more than 500ml. The “inner package” is the individual bottle, tube or drum, not the outer packaging such as a fiberboard box or carton containing many bottles. Permabond 3g, 20gr, 1 ounce (28.4 gr), 1 pound (454gr) and 500ml, are not restricted for air transportation.

**Water Transportation (IMO/IMDG):**

| | |
|---|---|
| **Proper shipping name:** | Unrestricted |
| **Hazard class or division:** | None |
| **Identification number:** | None |
| **Packing group:** | None |
| **Marine pollutant:** | None |

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

| | |
|---|---|
| **TSCA 8 (b) Inventory Status:** | All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. |
| **TSCA 12 (b) Export Notification:** | None above the reporting limits. |
| **CERCLA/SARA Section 302 EHS:** | None above the reporting limits. |
| **CERCLA/SARA Section 311/312:** | Immediate Health, Delayed Health, Fire, Reactive |
| **CERCLA/SARA 313:** | None above the reporting limits. |
| **California Proposition 65:** | No chemical listed on the California Proposition 65 are known to be present. |

**Canada Regulatory Information**

| | |
|---|---|
| **CEPA DSL/NDSL Status:** | All components are listed on or are exempt from listing on the Domestic Substances List. |

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous one**: New format

**Issue date:** 05/05/15

ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

THE CLOROX COMPANY

# SAFETY DATA SHEET

**Issuing Date** January 5, 2015 **Revision Date** New **Revision Number** 0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** **Original Pine-Sol® Multi-Surface Cleaner**

**Other means of identification**

**EPA Registration Number** 5813-101

**Recommended use of the chemical and restrictions on use**

**Recommended Use** General purpose household cleaner and disinfectant

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier Address**
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

**Emergency telephone number**

**Emergency Phone Numbers** For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**Classification**

This mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | |
|---|---|
| Skin corrosion/irritation | Category 3 |

**GHS Label elements, including precautionary statements**

**Emergency Overview**

**Signal word** **Warning**

**Hazard statements**
Causes mild skin irritation

No pictogram required.

**Appearance** Clear, amber **Physical State** Slightly viscous liquid **Odor** Pine

**Precautionary Statements - Prevention**
None

**Precautionary Statements - Response**
If skin irritation occurs: Get medical advice.

**Precautionary Statements - Storage**
None

**Precautionary Statements - Disposal**
None

**Hazards not otherwise classified (HNOC)**
Not applicable

**Unknown Toxicity**
6.8% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**
No information available.

**Interactions with Other Chemicals**
May react with bleach-containing products or other household cleaners to produce hazardous gases.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % | Trade Secret |
|---|---|---|---|
| Alcohols, C10-14, ethoxylated | 66455-15-0 | 3 - 7 | * |
| Glycolic acid | 79-14-1 | 1 - 5 | * |

* The exact percentage (concentration) of composition has been withheld as a trade secret

## 4. FIRST AID MEASURES

**First aid measures**

**General Advice** Show this safety data sheet to the doctor in attendance.

**Eye Contact** Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin Contact** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation occurs, get medical advice.

**Inhalation** Move to fresh air. If breathing is affected, call a doctor.

**Ingestion** Call a poison control center or doctor immediately for treatment advice. Have person sip a glassful of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** Mild irritation of eyes and skin.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**
No information available

**Explosion Data**

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Avoid contact with eyes and skin.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental Precautions** See Section 12 for additional ecological Information

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool, and well-ventilated place.

**Incompatible Products** Products containing bleach and other household cleaners.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Alcohols, C10-14, ethoxylated<br>66455-15-0 | None | None | None |
| Glycolic acid<br>79-14-1 | None | None | None |

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.*

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** If splashes are likely to occur, wear safety glasses with side-shields. None required for consumer use.

**Skin and Body Protection** No special protective equipment required.

**Respiratory Protection** If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes, or clothing. Do not eat, drink, or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

| | | | |
|---|---|---|---|
| **Physical State** | Slightly viscous liquid | | |
| **Appearance** | Clear | **Odor** | Pine |
| **Color** | Amber | **Odor Threshold** | No information available |

| **Property** | **Values** | **Remarks/ Method** |
|---|---|---|
| **pH** | 2 - 3 | None known |
| **Melting/freezing point** | No data available | None known |
| **Boiling Point/Range** | No data available | None known |
| **Flash Point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limits in Air** | | |
| **Upper flammability limit** | No data available | None known |
| **Lower flammability limit** | No data available | None known |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | No data available | None known |
| **Specific Gravity** | ~1.0 | None known |
| **Water Solubility** | Soluble in water. | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | ~15 cP | None known |
| **Explosive Properties** | Not explosive | |
| **Oxidizing Properties** | No data available | |

**Other Information**

| | |
|---|---|
| **Softening Point** | No data available |
| **VOC Content (%)** | No data available |
| **Particle Size** | No data available |
| **Particle Size Distribution** | No data available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
May react with bleach-containing products or other household cleaners to produce hazardous gases.

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
None known.

**Incompatible materials**
Products containing bleach and other household cleaners.

**Hazardous Decomposition Products**
None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Exposure to vapor or mist may irritate respiratory tract.

**Eye Contact** May cause eye irritation.

**Skin Contact** Prolonged contact may cause irritation.

**Ingestion** Ingestion may cause irritation to mucous membranes and gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Component information**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Glycolic acid<br>79-14-1 | - | - | 7.7 mg/L (Rat, 4 h) |

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes and skin redness.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive Toxicity** No information available

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.
**Chronic Toxicity** Carcinogenic potential is unknown.
**Target Organ Effects** Respiratory system, eyes, skin, gastrointestinal tract (GI).

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document** Not applicable.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
No information available.

**Persistence and Degradability**
No information available.

**Bioaccumulation**
No information available.

**Other Adverse Effects**
No information available.

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**
Dispose of in accordance with all applicable federal, state, and local regulations.

**Contaminated Packaging**
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**ICAO** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### Chemical Inventories

**TSCA** All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

**DSL/NDSL** All components are on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. Federal Regulations

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | No |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**Clean Water Act**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**EPA Statement**
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **CAUTION:** Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

## U.S. State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**
None known.

## International Regulations

**Canada**
**WHMIS Hazard Class**
D2B Toxic Materials

## 16. OTHER INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health Hazard** | 1 | **Flammability** | 0 | **Instability** | 0 | **Physical and Chemical Hazards** - |
| **HMIS** | **Health Hazard** | 1 | **Flammability** | 0 | **Physical Hazard** | 0 | **Personal Protection** A |

**Prepared By**

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Preparation/Revision Date** January 5, 2015

**Revision Date** New

**Revision Note** New

**Reference** 1092238/183922.001

**General Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of Safety Data Sheet**

# SAFETY DATA SHEET

## Section 1: Product and Company Identification

**Product Name:** Pipetite® Paste

**Product Use:** Pipe thread sealant

**Product Code:** 12109 [1/4pt. BIC]; 12110 [1/2 pt. BIC]; 12112 [1 pt. BIC]

**Manufacturer:** LA-CO Industries, Inc.
1201 Pratt Boulevard
Elk Grove Village, IL.
60007-5746

**Phone Number:** (847) 956-7600
Fax: (847) 956-9885

**24-hour Emergency:** **CHEMTREC: (800) 424-9300**

## Section 2: Hazards Identification

| Protective Clothing | NFPA Rating (USA) | EU Classification | WHMIS (Canada) | Transportation |
|---|---|---|---|---|
|  |  | **Not classified as dangerous** |  **B3** | **See Section 14** |

**Emergency Overview:** Exposure to hazardous substances is not expected when handling this product for its intended use.
**Appearance, Color and Odor:** Grey colored paste, mild, sweet odor of ether.

USA: This material is considered hazardous by the OSHA hazard Communication Standard (29 CFR 1910.1200).

Canada: This is a controlled product under WHMIS.

European Union (EU): This product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Potential Health Effects** **ACUTE (short term): see Section 8 for exposure controls**

**Relevant Route(s) of Exposure:** Skin contact, Inhalation.
Pipetite® Paste does not present an inhalation hazard unless subjected to conditions where over-exposure to vapors may occur, such as in a confined space.

**Inhalation:** No health effects expected with normal use of the product. Inhalation of vapors of vapors ≥ 100 ppm, can irritate the respiratory tract. Over-exposure to high concentrations of vapors ≥ 100 ppm, can cause Central Nervous System (CNS) effects; symptoms may include headache and dizziness.

**Ingestion:** Not an expected route of occupational exposure. Components of the product have low oral toxicity. Swallowing very large amounts may cause CNS symptoms similar to those described under inhalation, above.

**Skin:** No health effects expected with normal use of the product. DPGME may be absorbed through the skin if direct skin contact is extensive and prolonged. Absorption may cause CNS symptoms similar to those described under Inhalation, above.

**Eye:** No health effects expected with normal use of the product. Direct eye contact may cause mild irritation.

**CHRONIC (long term): see Section 11 for additional toxicological data**

Prolonged or repeated skin contact may cause dermatitis in some individuals.

# SAFETY DATA SHEET

## Section 2: Hazards Identification (continued)

**Medical Conditions Aggravated by Exposure:** Skin contact may aggravate an existing dermatitis.

**Interactions With Other Chemicals:** See Section 10

**Potential Environmental Effects:** Not available

## Section 3: Composition / Information on Ingredients

**Hazardous Ingredients:**

| Chemical Name | CAS No. | Wt.% | EINECS / ELINCS | Symbol | Risk Phrases |
|---|---|---|---|---|---|
| (2-methoxymethylethoxy)propanol (DPGME) | 34590-94-8 | 15 - 40 | 252-104-2 | None* | None* |
| Talc | 14807-96-6 | 15 - 40 | 238-877-9 | None* | None* |

**Note**: * This chemical substance is not classified in the Annex I of Directive 67/548/EEC.

## Section 4: First Aid Measures

**Inhalation:** If symptoms are experienced remove source of contamination or move victim to fresh air and obtain medical advice.

**Eye Contact:** If material becomes lodged in the eye, do not allow victim to rub eye(s). Let the eye(s) water naturally for a few minutes. Have victim look right and left, and then up and down. If particle/dust does not dislodge, flush with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed, while holding the eyelid(s) open. If irritation persists, obtain medical attention. DO NOT attempt to manually remove anything stuck to eye(s).

**Skin Contact:** Quickly and gently, blot or brush away excess paste. Wash gently and thoroughly with lukewarm, gently flowing water and non-abrasive soap for 5 minutes. If irritation develops, obtain medical advice.

**Ingestion:** If swallowed in large amounts or if irritation or discomfort occurs, obtain medical advice immediately.

## Section 5: Fire Fighting Measures

**Flammable Properties:** The paste contains a combustible liquid. Vapors can form explosive mixture with air at or above the flashpoint 71°C (160°F).

**Suitable extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or an appropriate foam. Use water spray to cool fire-exposed containers.

**Unsuitable extinguishing Media:** Not applicable

**Explosion Data:**

**Sensitivity to Mechanical Impact:** Not applicable

**Sensitivity to Static Discharge:** Not applicable

**Specific Hazards arising from the Chemical:** During a fire, products of combustion may include Carbon dioxide, carbon monoxide, aldehydes, smoke and irritating and toxic fumes may be formed.

**Protective Equipment and precautions for firefighters:** Self-contained breathing apparatus and protective clothing should be worn. Remove all unprotected personnel.

**NFPA**

**Health:** 1
**Flammability:** 2
**Instability:** 0

# SAFETY DATA SHEET

## Section 6: Accidental Release Measures

**Personal Precautions:** Wear protective gloves. Spilled product may pose a slipping hazard.

**Environmental Precautions:** Prevent the product from entering sewers or waterways.

**Methods for Containment:** Stop the spill if it is safe to do so. Contain spilled material with a suitable absorbent which does not react with spilled material.

**Methods for Clean-up:** Scrape or scoop up the spilled product and collect for re-use or proper disposal. Dispose of any contaminated, unusable product as described in Section 13 of this SDS.

## Section 7: Handling and Storage

**Handling:** Avoid contact with eyes and skin; do not breathe fumes. Do not ingest. Do not use near sources of extreme heat or ignition sources. Keep out of reach of children. Use this material with adequate ventilation. Keep container closed when not in use. Remove contaminated clothing and wash before reuse.
Wash thoroughly with detergent and water after handling, before eating, drinking, smoking or using the toilet.

**Storage:** Store in a cool, dry area, away from incompatible materials (see Section 10).

## Section 8: Exposure Controls/Personal Protection

**Exposure Guidelines**
Consult local authorities for acceptable exposure limits.

| Ingredient | ACGIH TLV (8-hr. TWA) mg/m$^3$ | U.S. OSHA PEL (8-hr. TWA) mg/m$^3$ | Ontario (Canada) TWAEV mg/m$^3$ | EU - Occupational Exposure (2000/39/EC) |
|---|---|---|---|---|
| (2-methoxymethylethoxy) propanol (DPGME) | 100 ppm<br>150 ppm STEL<br>Skin - notation | 100 ppm<br>Skin designation | 100 ppm<br>150 ppm STEV | 50 ppm<br>Possibility of significant uptake through the skin |
| Other exposure limits: | NIOSH IDLH (Immediately Dangerous to Life or Health): 600 ppm, potential for dermal absorption | | | |

**Exposure Controls**

**Engineering Controls:** Provide adequate ventilation/local exhaust to keep vapor concentrations below the exposure limits listed above.

**Personal Protection:** Workers must comply with the Personal Protective Equipment requirements of the workplace in which this product is handled.

**Eye/Face Protection:** Wear eye/face protection (e.g. goggles/face shield) appropriate for the workplace where this material is handled and the conditions of use.

**Skin Protection:** Wear appropriate protective gloves and clean, body-covering clothing, when workplace conditions warrant their use.

**Respiratory Protection:** Not required for normal use.
If ventilation and other engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protective equipment (RPE). Consult with respirator manufacturer to determine respirator selection, use and limitations.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements, European Standard EN529 or Canadian Standards Association (CSA) Standard Z94.4-2002 must be followed whenever workplace conditions warrant a respirator's use.

**General Hygiene Measures:** Do not ingest. Avoid contact with skin and eyes. Keep out of reach of children. Wash hands after handling.

# SAFETY DATA SHEET

## Section 9: Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Physical State:** | Paste | **Vapor Pressure (mm Hg @ 25°C):** | Not available |
| **Appearance:** | Grey colored | **Vapor Density (Air = 1):** | For DPGME=5.1 |
| **pH:** | Not applicable | **Solubility in Water:** | Insoluble in water. |
| **Relative Density (water = 1):** | 1.4 | **Water / Oil distribution coefficient:** | <1 |
| **Boiling Point:** | 177°C (350°F) | **Odor Type:** | Mild, sweet odor of ether. |
| **Freezing Point:** | Not available | **Odor Threshold:** | Not available |
| **Viscosity:** | Not available | **Evaporation Rate:** | Not available |
| **Oxidizing Properties:** | Not available | **Auto Ignition Temperature (°C):** | Not available |
| **Flash Point and Method:** | 71°C (160°F) TOC | **Flammability Limits (%):** | For DPGME Upper=1.1%@200°C Lower=3.0% |
| **VOC:** | 30 – 40%(w.w); 32 – 42% (v/v); 0.3-0.4 kg/L | **Viscosity:** | 150 000-20 000 cps |

## Section 10: Stability and Reactivity

**Chemical Stability:** Stable at normal room temperature.

**Conditions to Avoid:** Avoid extreme heat and open flames.

**Incompatible Materials:** Incompatible with strong oxidizing agents.

**Hazardous Decomposition Products:** Thermal decomposition may generate irritating vapors of DPGME.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

## Section 11: Toxicological Information

**Acute Toxicity Data**

| Ingredient | $LD_{50}$ Oral (mg/kg) | $LD_{50}$ Dermal (mg/kg) | $LC_{50}$ Inhalation (4 hrs.) |
|---|---|---|---|
| (2-methoxymethylethoxy) propanol (DPGME) | >5 000 (rat) | >4 000 (rabbit) | Not available |

**Chronic Toxicity Data**

**Carcinogenicity:** Some component substances in this mixture, when inhaled as respirable particulates, have carcinogenic risks. Inhalation of respirable particulate is not an applicable route of exposure for this product.

**Irritation:** Inhalation of vapors of vapors ≥ 100 ppm, can irritate the respiratory tract.

**Corrosivity:** Not applicable

**Sensitization:** Not applicable

**Neurological Effects:** Not available

**Genetic Effects:** Not available

**Reproductive Effects:** Not available

**Developmental Effects:** Not available

**Target Organ Effects:** Not available

# SAFETY DATA SHEET

## Section 12: Ecological Information

| | |
|---|---|
| **Ecotoxicity:** | Not available |
| **Persistence/Degradability:** | Not available |
| **Bioaccumulation/Accumulation:** | Product is not readily biodegradeable. |
| **Mobility:** | Not available |

## Section 13: Disposal Considerations

| | |
|---|---|
| **Waste Disposal Method:** | Do NOT discard into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage.<br>The conditions of use, storage and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, the supplier does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product. |
| **USA:** | Dispose of in accordance with local, state and federal laws and regulations. |
| **Canada:** | Dispose of in accordance with local, provincial and federal laws and regulations. |
| **EU:** | Waste must be disposed of in accordance with relevant EU Directives and national, regional and local environmental control regulations. |

## Section 14: Transport Information:

| | |
|---|---|
| **U.S. Hazardous Materials Regulation (DOT 49CFR):** | May be shipped as Dangerous Goods in Limited Quantities.<br>NA1993, Combustible Liquid N.O.S. ([2-methoxymethylethoxy] propanol) PG III. |
| **Canadian Transportation of Dangerous Goods (TDG):** | Not regulated |
| **ADR/RID:** | Not regulated |
| **IMDG:** | Not regulated |
| **Marine Pollutants:** | Not applicable |
| **ICAO/IATA:** | Not regulated |

## Section 15: Regulatory Information

**USA**

| | |
|---|---|
| **TSCA Status:** | All ingredients in the product are listed on the TSCA inventory. |
| **SARA Title III** | |
| Sec. 302/304: | None |
| Sec: 311/312: | Combustible |
| Sec. 313: | Not applicable |
| CERCLA RQ: | Not applicable |
| **California Prop 65:** | Not applicable |

**Canada**

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

| | |
|---|---|
| **WHMIS Classification:** | B3 – Combustible liquid |
| **DSL:** | All component substances are listed on Canada's Domestic Substances List (DSL). |

**EU Classification for the Substance/Preparation**

| | |
|---|---|
| **Symbol:** | This product is not classified as dangerous according to Directive 1999/45/EC and its amendments. |

# SAFETY DATA SHEET

**Safety Phrases:** S1/2: Keep locked up and out of the reach of children.

## Section 16: Other Information

**Preparation Information:**

**Revision Date:** May 25, 2011

**Manufacturer Disclaimer:** The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

**Prepared by:** LEHDER Environmental Services Limited (519) 336-4101
www.lehder.com

**Disclaimer:** While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | |
|---|---|
| **Identification of the substance/preparation** | **UltraLube® MultiPurpose Lithium Grease #2- 10300,10301,10302,10303,10304,10305** |
| **Use of the substance/preparation** | Multi purpose lithium grease. For use with mini grease gun 30001 (10300) |
| **Version No.** | 02 |
| **Revision date** | 17-September-2012 |
| **CAS No.** | Mixture |

**Supplier**
Plews & Edelmann
1550 Franklin Grove Road
Dixon, IL 61021
815-288-3344

**Manufacturer Address**
Environmental Lubricants Manufacturing, Inc.
311 B Ave -Grundy Center, IA 50638

**SDS Questions:** **(**319) 824-5203

**Emergency telephone:** CHEMTREC: (800) 824-9300

## 2. HAZARDS IDENTIFICATION

This preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Physical hazards** Not classified as a physical hazard.

**Health hazards** Not Classified as a health hazard.

**Environmental hazards** Not Toxic-Not classified as an environmental hazard.

**Specific hazards** May form vapors or oil mists during mechanical action or at elevated temperatures which may be irritating to the respiratory tract. Excessive inhalation of oil mist may affect respiratory system. Dermatitis after prolonged exposure. Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne.

**Main symptoms** Irritant effects. Irritation of eyes and mucous membranes.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | Classification | CAS-No. | % | EC-No. / REACH Registration No. | Notes |
|---|---|---|---|---|---|
| Vegetable Oil | - | 120962-03-0 | 65-85 | 273-315-5 | |
| Naphthenic Oil | | 64742-52-5 | 5 - 15 | 265-155-0 | |
| 2-tert-butyl-hydroquinone | | 1948-33-0 | 0.1 - <1 | 217-752-2 | |

**Composition comments** The full text for all R-phrases is displayed in Section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. FIRST-AID MEASURES

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses

| | |
|---|---|
| | and open eyes wide apart. Get medical attention if irritation develops or persists. |
| **Ingestion** | Drink 1 or 2 glasses of water. Get medical attention if any discomfort continues. |
| **Most important symptoms and Effects** | Symptoms include itching, burning, redness, and tearing of eyes. |
| **General advice** | Get medical attention if any discomfort develops. |
| **Notes to physician** | Treat symptomatically. |

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Suitable extinguishing media** | Dry chemical, foam, carbon dioxide. |
| **Extinguishing media which must not be used for safety reasons** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Unusual fire & explosion Hazards** | None known |
| **Specific hazards** | Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised. |
| **Special protective equipment for fire-fighters** | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. |
| **Fire fighting equipment/instructions** | Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out. |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | When working with heated grease, mechanical ventilation may be required. Remove sources of ignition. Avoid contact with skin and eyes. For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces. |
| **Environmental precautions** | Do not allow to enter drains, sewers or watercourses. Collect and dispose of spillage as indicated in Section 13. Contact local authorities in case of spillage to drain/aquatic environment. |
| **Methods for cleaning up** | Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.<br><br>Small Spills: Absorb spillage with oil-absorbing material.<br><br>Large Spills: Absorb spilled substance with sand or earth. |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Handle and open container with care. Wear appropriate personal protective equipment. Avoid prolonged and repeated contact with grease, particularly used grease. Always remove grease with soap and water or skin cleaning agent, never use organic solvents. Use work methods which minimise production of vapours and mists. Observe good industrial hygiene practices. |
| **Storage** | Keep away from heat, sparks and open flame. Store in a cool and well-ventilated place. Store away from incompatible materials. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Occupational exposure limits** | No exposure limits noted for ingredient(s). |
| **Exposure controls** | Provide adequate ventilation. When working with heated oil, mechanical ventilation may be required. Provide access to washing facilities including soap, skin cleanser and fatty cream. |
| **Occupational exposure controls**<br>**Respiratory protection** | In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P2). Seek advice from local supervisor. |

| | |
|---|---|
| **Hand protection** | Wear protective gloves. Nitrile gloves are recommended. Suitable gloves can be recommended by the glove supplier. |
| **Eye protection** | If risk of splashing, wear safety goggles or face shield. |
| **Skin and body protection** | Wear suitable protective clothing. Frequent change of gloves is advisable. |
| **General** | Use personal protective equipment as required. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. |
| **Environmental exposure Controls** | Contain spills and prevent releases and observe national regulations on emissions. |
| **Hygiene measures** | Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling. Launder contaminated clothing before reuse. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Grease. |
| **Physical state** | Semi-Solid. |
| **Form** | Grease. |
| **Colour** | Amber. |
| **Odour** | Characteristic vegetable oil. |
| **Odour threshold** | Not available. |
| **pH** | Not available. |
| **Boiling point** | Not available. |
| **Flash point** | NA |
| **Flammability** | Not available. |
| **Flammability limits in air, upper, % by volume** | Not available. |
| **Flammability limits in air, lower, % by volume** | Not available. |
| **Vapour pressure** | < 0.5 mm Hg at 20 °C |
| **Relative density** | 0.92 |
| **Solubility (water)** | Practically insoluble |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Viscosity** | Not available. |
| **Vapour density** | > 1 (Air = 1) |
| **Evaporation rate** | < 1 (n-Butylacetate = 1) |
| **Melting point** | Not available. |
| **Freezing point** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **VOC** | 0 % |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability** | Stable at normal conditions. |
| **Conditions to avoid** | High temperatures. Exposure to light. Contact with incompatible materials. |
| **Materials to avoid** | Strong oxidising agents. |
| **Hazardous decomposition Products** | At thermal decomposition temperatures, carbon monoxide and carbon dioxide. Nitrogen oxides. |

**Hazardous polymerisation** Hazardous polymerisation does not occur.

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | May form vapours or oil mists during mechanical action or at elevated temperatures which may be irritating to respiratory tract. Excessive inhalation of oil mist may affect respiratory system. Causes skin and eye irritation. Swallowing may cause gastrointestinal irritation. |
| **Routes of exposure** | Eye contact. Inhalation. Skin contact. |
| **Chronic toxicity** | Degreasing. Prolonged or frequent contact may cause redness, itching and eczema/chaps. |
| **Sensitisation** | The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals. |
| **Carcinogenicity** | No carcinogenicity data available for this product. |
| **Mutagenicity** | No test data available for the product. |
| **Reproductivity** | No test data available for the product. |
| **Epidemiology** | No epidemiological data is available for this product. |
| **Local effects** | Irritating to eyes and skin. May cause redness and pain. |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | Greases are generally hazardous to the environment. |
| **Mobility** | The product is immiscible with water and will spread on the water surface. |
| **Persistence and degradability** | No data available. |
| **Bioaccumulation** | No data available. |
| **Aquatic toxicity** | No data available for this product. |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **Disposal instructions** | Dispose in accordance with all applicable regulations. |
| **Waste from residues / unused Products** | Dispose of in accordance with local regulations. |
| **EU wastecodes** | 20 01 26* |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **ADR** | Not regulated as dangerous goods. |
| **IATA** | Not regulated as dangerous goods. |
| **IMDG** | Not regulated as dangerous goods. |

## 15. REGULATORY INFORMATION

| | |
|---|---|
| **Other regulations** | This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended. |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Wording of the R-phrases in sections 2 and 3** | This preparation is not classified as dangerous according to Directive 1999/45/EC |

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

| | |
|---|---|
| **Disclaimer** | The information given is based on data available for the material, the components of the material, and similar materials. |
| **Issue date** | 10-June-2010 |

245 Woodstock Road / Woodstock, CT 06281-0188 / 860.928.3622 / Fax: 860.928.7843

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|---|---|
| TRADE NAME: | PORON® Microcellular Polyurethane Material<br>4701-30, 4701-40, 4701-50, 4701-60 |
| CHEMICAL FAMILY: | Urethane Polymer |
| HMIS RATING: | H 0 F 1 R 0 |
| USE OF MATERIAL | Insulation, Gasket and Padding |
| DATE PREPARED: | 6/13/2006 |
| EMERGENCY PHONE: | 860-774-9605 |
| CHEMTREC: | 800-424-9300 (U.S. & Canada)<br>703-527-3887 (International – Call Collect) |

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | EINECS /ELINCS | % | OSHA PEL | ACGIH TLV | EU Classification |
|---|---|---|---|---|---|---|
| Alumina Trihydrate | 21645-51-2 | 244-492-7 | <20 | 15 mg/m$^3$ (Dust.) | 10 mg/m$^3$ (as AL) | NC |
| Titanium Oxide | 13463-67-7 | 236-675-5 | <5 | 15 mg/m$^3$ (Resp.) | 10 mg/m$^3$ (Resp.) | NC |
| Carbon Black (In Black Material) | 1333-86-4 | 215-609-9 | <1 | 3.5 mg/m$^3$ | 3.5 mg/m$^3$ | NC |

This material is produced as an "article" as defined in 20 CFR 1910.1200 and is therefore exempt from the Hazard Communication Standard. Since this material does not release and will not result in exposure to a hazardous chemical under normal conditions of use, no Material Data Sheet is required. This form is provided as a convenience to our customers. The material contains no other hazardous ingredients as defined in OSHA's Hazard Communication Standard 29 CFR 1910.1200 or EU directive 1999/45/EC, and do not present a health or environmental hazard according to directive 67/548/EC.

## 3. HAZARDS IDENTIFICATION

| | |
|---|---|
| EFFECTS OF OVEREXPOSURE: | None are expected with normal handling. Cutting and other finishing operations may create polyurethane dust. Ventilation and personnel protection should be similar to all operations generating nuisance dust. IARC has listed carbon black as a Class 2B suspected human carcinogen based on tests with laboratory animals. |
| INHALATION: | Remove to fresh air and seek medical attention if necessary. |
| EYE CONTACT: | Flush eyes with water and seek medical attention in necessary. |
| SKIN CONTACT: | Wash thoroughly with soap and water. |
| INGESTION: | None known. |
| CHRONIC: | None known. |

## 4. FIRST-AID MEASURES

INHALATION: Remove to fresh air and obtain medical attention if symptoms persist.

EYE CONTACT: Flush eyes and eyelids thoroughly with water and soap and obtain medical attention if irritation persists.

SKIN CONTACT: Wash thoroughly and soap and water and obtain medical attention if symptoms persist.

INGESTION: NA

## 5. FIRE-FIGHTING MEASURES

FLASH POINT: NA Flammable Limits: LEL NE UEL NE
AUTOIGNITION TEMPERATURE: NA

EXTINGUISHING MEDIA: X Water Spray X Foam X $CO_2$
X Dry Chemical ___ Other –

SPECIAL FIRE FIGHTING PROCEDURES: Decomposition in a fire may produce toxic fumes. Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Polyurethane materials may generate dense smoke in a fire.

## 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: None needed.

ENVIRONMENTAL PRECAUTIONS: None needed.

CLEANING METHODS: Sweep or shovel into appropriate container for disposal. Avoid creation of nuisance dust.

## 7. HANDLING AND STORAGE

HANDLING: Hot wire cutting operations should be exhausted to prevent exposure to irritating vapors. Wear suitable protective equipment, refer to Section 8.

STORAGE: Keep container tightly closed in a cool, well-ventilated area.

## 8. ENGINEERING CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: None needed

VENTILATION
- LOCAL: Recommended in cutting/finishing operations or hot wire cutting operation.
- GENERAL: Recommended as with all industrial operations.

PERSONAL PROTECTION
- HAND: Gloves to avoid skin contact if desired.
- EYE: Safety glasses with side shields are recommended in all industrial operations.
- SKIN: None required.
- OTHER: Safety shower/eyewash in the area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| APPEARANCE: | Solid, Cellular Urethane Foam Roll or Sheet (Various Colors Available) |
| ODOR: | Slight Odor |
| PHYSICAL STATE: | Solid |
| BOILING POINT: | NA |
| MELTING POINT: | NE |
| FREEZING POINT: | NE |
| WATER SOLUBILITY: | None |
| VAPOR PRESSURE: | NA |
| SPECIFIC GRAVITY: | 0.2-0.53 (water = 1) |
| PARTITION COEFIECIENT: | NA |
| EXPLOSIVE PROPERTIES: | NA |
| EVAPORATION RATE: | NA |
| DENSITY: | NA |
| VISCOSITY: | NA |
| IGNITION TEMPERATURE: | NA |
| PH: | NA |
| FLAMMABILITY: | NA |
| OXIDIZING PROPERTIES: | NA |

## 10. STABILITY AND REACTIVITY

STABLE X UNSTABLE ____

| | |
|---|---|
| CONDITIONS TO AVOID: | NA |
| MATERIALS TO AVOID: | NA |
| HAZARDOUS POLYMERIZATION: | ____ May Occur ___X___ Does Not Occur |
| HAZARDOUS DECOMPOSITION PRODUCTS: | CO, $CO_2$, Oxides of nitrogen, HCN, and traces of incompletely burned carbon compounds. |

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| CARCINOGENIC STATUS: | NA |
| ACUTE/CHRONIC: | NA |
| REPRODUCTIVE HAZARDS: | NA |

## 12. ECOLOGICAL INFORMATION

NA

## 13. DISPOSAL CONSIDERATION

| | |
|---|---|
| ENVIRONMENTAL TOXICITY DATA: | NA |
| WASTE DISPOSAL METHOD: | Dispose of in accordance with applicable, federal, state, provincial, and local laws and regulations. |
| CONTAINER DISPOSAL: | Dispose of in accordance with applicable, federal, state, provincial, and local laws and regulations. |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| DOT/ADR CLASSIFICATION: | Not Regulated |
| IMDG CLASSIFICATION: | Not Regulated |
| ICAO/IATA CLASSIFICATION: | Not Regulated |

## 15. REGULATORY INFORMATION

| | |
|---|---|
| INTERNATIONAL REGUALTIONS: | |
| Canadian (DSL/NDSL): | NA |
| Australian (ACIS): | NA |
| Korea (KECI): | NA |
| Japan (ENCS, MITI): | NA |
| EU Directive 2002/95/EC (RoHS): | Complaint |
| TSCA *(Toxic Substances Control Act):* | All ingredients listed on TSCA or exempt. |
| CERCLA *(Comprehensive Emergency Response, Compensation, and Liability Act):* | NA |
| SARA TITLE III *(Superfund Amendments and Reauthorization Act):* | NA |
| 311/312 HAZARD CATEGORIES: | None |

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

| CAS # | CHEMICAL NAME | PERCENT BY WEIGHT |
|---|---|---|
| NA | NA | NA |

## 16. OTHER INFORMATION

NA = Not Applicable
NE = Not Established
NC = Not Classified

| | |
|---|---|
| FILE: | POR4701-30-60.doc |
| | 99101 |
| PREPARED BY: | Michal Werbecki |
| REVIEWED BY: | Frances Walsh |

MATERIAL SAFETY DATA SHEET

567475 Newton Building

PRODUCT NAME: POURSTONE ANCHORING CEMENT HMIS CODES: H F R P
PRODUCT CODE: MBG50 1 0 0 E

========== SECTION I - MANUFACTURER IDENTIFICATION ==========

MANUFACTURER'S NAME: Custom Building Products, Inc.
ADDRESS: 6511 SALT LAKE AVE., BELL, CA. 90201
EMERGENCY PHONE: (213) 582-0846 INFORMATION PHONE: (213) 582-0846
DATE REVISED : 1-12-99 NAME OF PREPARER : STEVE TAYLOR

========== SECTION II - INGREDIENTS/SARA III INFORMATION ==========

| COMPONENTS | CAS NUMBER | OCCUPATIONAL EXPOSURE LIMITS OSHA PEL | ACGIH TLV | VAPOR PRESSURE mm Hg @ TEMP | Wt. % |
|---|---|---|---|---|---|
| PORTLAND CEMENT | 65997-15-1 | 5MG/M3DUST | 10MG/M3 | N/A | |
| GYPSUM | 26499-65-0 | 5MG/M3 | 10MG/M3 | N/A | |

*** No toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present. ***

========== SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS ==========

BOILING RANGE: N/A SPECIFIC GRAVITY (H2O=1): 2.8
VAPOR DENSITY: N/A EVAPORATION RATE: N/A
SOLUBILITY IN WATER: SLIGHT
APPEARANCE AND ODOR: COLORED POWDER NO ODOR

========== SECTION IV - FIRE AND EXPLOSION HAZARD DATA ==========

FLASH POINT: N/A
FLAMMABLE LIMITS IN AIR BY VOLUME - LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: NONE KNOWN

SPECIAL FIREFIGHTING PROCEDURES
NONE REQUIRED.

UNUSUAL FIRE AND EXPLOSION HAZARDS
NONE REQUIRED

## SECTION V - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID
NONE

INCOMPATIBILITY (MATERIALS TO AVOID)
NONE

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
NONE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS POLYMERIZATION CANNOT OCCUR

## SECTION VI - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
CHRONIC: CEMENT DUST CAN CAUSE INFLAMMATION OF THE LINING TISSUE OF THE INTERIOR OF THE NOSE AND INFLAMMATION OF THE EYE. HYPERSENSITIVE INDIVIDUALS MAY DEVELOP AN ALLERGIC DERMATITUS (skin rash).

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE
ACUTE: WET CEMENT, ESPECIALLY AS AN INGREDIENT IN PLASTIC (unhardened) CONCRETE, CAN DRY THE SKIN AND CAUSE ALKALI BURNS. CEMENT DUST CAN IRRITATE THE EYES AND UPPER RESPIRATORY SYSTEM.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
NONE

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
NONE

HEALTH HAZARDS (ACUTE AND CHRONIC)
THIS PRODUCT CONTAINS ONE OR MORE CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. THE STATE OF CALIFORNIA (PROP. 65) REQUIRES THE ABOVE WARNING IN THE ABSENCE OF DEFINITIVE TESTING TO PROVE THAT THE DEFINED RISKS DO NOT EXIST. WE BELIEVE THIS PRODUCT COMPLIES WITH ALL OTHER APPLICABLE STATE AND FEDERAL LAWS AND REGULATIONS GOVERNING MANUFACTURE, DISTRIBUTION AND INTENDED USE.

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO
PORTLAND CEMENTS ARE NOT LISTED BY NTP, IARC, OR OSHA AS CONTAINING CARCINOGENS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
HYPERSENSITIVE INDIVIDUALS MAY DEVELOP SKIN RASH.

EMERGENCY AND FIRST AID PROCEDURES
EYE CONTACT: IRRIGATE EYES WITH WATER;CONSULT PHYSCIAN IMMEDIATELY.
SKIN CONTACT: WASH EXPOSED AREAS WITH SOAP AND WATER IMMEDIATELY.
IHALED: WEAR APPROVED RESPIRATOR IN DUSTY ENVIRONMENT.
SWALLOWED: CONSULT A PHYSICIAN.

========== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE ==========

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP USING DRY METHODS THAT DO NOT DISPERSE DUST INTO THE AIR.
AVOID BREATHING THE DUST. EMERGENCY PROCEDURES ARE NOT REQUIRED.

WASTE DISPOSAL METHOD
DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
STORE IN DRY LOCATION.

OTHER PRECAUTIONS
NONE

========== SECTION VIII - CONTROL MEASURES ==========

RESPIRATORY PROTECTION
APPROVED NIOSH RESPIRATOR.

VENTILATION
AVOID GENERATING DUST.

PROTECTIVE GLOVES
IMPERVIOUS GLOVES SHOULD BE WORN TO PREVENT SKIN CONTACT.

EYE PROTECTION
THE USE OF TIGHT GOGGLES ARE RECOMMENDED TO, PREVENT EYE IRRITATION FROM CEMENT DUST.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT.
THE USE OF BARRIER CREAMS OR GLOVES IMPERVIOUS BOOTS AND CLOTHING TO PROTECT THE SKIN FROM CONTACT WITH WET CEMENT.

WORK/HYGIENIC PRACTICES
GOOD HOUSEKEEPING PROCEDURES SHOULD BE FOLLOWED AT ALL TIMES.

========== SECTION IX - DISCLAIMER ==========

DISCLAIMER
THE INFORMATION PRESENTED HERE IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE, WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED, THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

# MATERIAL SAFETY DATA SHEET
# MSDS L-112 REVISION 9

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

The Dial Corporation
19001 N. Scottsdale Road
Scottsdale, Arizona 85255-9672

Medical Emergencies: 1-888-689-9082
Chemtrec: 1-800-424-9300 (24 Hours Daily)
Other Information: 1-888-468-6673

PRODUCT: Powdered Hand Soap DATE OF ISSUE: March 23, 2009

TRADE NAMES/SYNONYMS: Boraxo® Powdered Hand Soap - Industrial
Boraxo® Powdered Hand Soap - Special Heavy Duty
Boraxo® Powdered Hand Soap - Household
Boraxo® Luron Powdered Hand Soap - Pink
Twenty Mule Team® Powdered Hand Soap

CHEMICAL FAMILY: Mixture

I.D. NUMBERS: 900606 (Industrial), 900607 (Special Heavy Duty), 900608 (Twenty Mule Team), 900621(Household), 900631 (Luron)

## SECTION 2: HAZARD IDENTIFICATION

### EMERGENCY OVERVIEW

CAUTION: This product is a white or pink granular powder with a pleasant fragrance. Direct contact with eyes may cause eye irritation. Repeated or prolonged excessive exposure with skin may cause irritation. No significant environmental effects. Not a fire hazard. Product is stable.

This product is labeled in accordance with guidelines set forth in the Food, Drug, and Cosmetic Act. The use pattern and exposure in the workplace are generally not consistent with those experienced by consumers. The requirements of the Occupational Safety and Health Administration applicable to this Material Safety Data Sheet may differ from the requirements of the FD&C Act and as a result, this MSDS may contain additional health hazard information not pertinent to consumer use and not found on the product label.

### REGULATORY STATUS

While this product is not considered to be hazardous under OSHA's Hazard Communication Standard (29 CFR 1900.1200), this MSDS includes valuable information that is critical for safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

### POTENTIAL HEALTH EFFECTS

NOTE: The acute health effects described below are those which could potentially occur for the finished product. They are based on the toxicology information available for the finished product and/or each hazardous ingredient, and are consistent with the product type and the likelihood of a specific route of exposure. Known chronic health effects related to exposure to a specific ingredient are indicated.

EYE CONTACT: Direct contact with powder or dusts may cause irritation with redness, pain, blurred vision, and possibly corneal injury.

SKIN CONTACT: Non irritating to intact skin. Absorption through large areas of damaged skin may produce symptoms similar to those following ingestion.

INGESTION: May cause gastrointestinal disturbances such as headache nausea, vomiting, abdominal pain, and diarrhea, with delayed effects of skin redness and peeling.

INHALATION: Dust may cause mucous membrane irritation with sore throat, sneezing, coughing and shortness of breath.

### CHRONIC HEALTH EFFECTS

No chronic health effects are expected from the intended use of these products or from foreseeable handling of them in the workplace. Nonetheless, the following effects have been reported for a component, sodium borate, and boric acid. Sodium borate upon entry into the body becomes boric acid.

*Sodium Borate:* Sodium borate and boric acid interfere with sperm production, damage the testes and interfere with male fertility when given to animals by mouth at high doses. Boric acid produces developmental effects, including reduced body weight, malformations and death, in the offspring of pregnant animals given boric acid by mouth.

The above mentioned animal studies were conducted under exposure conditions leading to doses many times in excess of those that could occur through product use or inhalation of dust in occupational settings. Moreover, a human study of occupational exposure to sodium borate and boric acid dusts showed no adverse effect on fertility.

**MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:** Pre-existing skin conditions or respiratory illnesses.

**POTENTIAL ENVIRONMENTAL EFFECTS**

See Section 12: Ecological Information.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Based on our hazard evaluation, the following chemical substance(s) in this product have been identified as hazardous.

| INGREDIENT | CAS NUMBER | PERCENT (w/w) |
|---|---|---|
| Sodium Borate Decahydrate (Borax) | 1303-96-4 | 60 – 100 % |
| Sodium Soap | 67701-11-5 & 67701-10-4 | 10 – 30 % |

## SECTION 4: FIRST AID MEASURES

EYES: Rinse eyes immediately with plenty of water, occasionally lifting upper and lower lids, until no evidence of product remains. Get medical attention if pain or irritation persists.

SKIN: Rinse affected area with plenty of water until no evidence of product remains. Get medical attention if irritation persists.

INGESTION: Treat symptomatically and supportively. Maintain airway and respiration. If vomiting occurs, keep head below hips to prevent aspiration. Dilution by rinsing the mouth and giving water or milk to drink is generally recommended. If unconscious, the victim should not be given anything to drink. Contact physician or local poison control center.

INHALATION: Remove from exposure area to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. Contact physician or local poison control center. If breathing has stopped, give artificial respiration, and get medical attention immediately.

NOTE TO PHYSICIAN: The physician's judgment should be used to control symptoms and clinical condition based on the individual reactions of the patient.

## SECTION 5: FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES**

OSHA FLAMMABILITY CLASSIFICATION: Not applicable FLASH POINT: None

UPPER FLAMMABILITY LIMIT: Not applicable LOWER FLAMMABILITY LIMIT: Not applicable

AUTO-IGNITION TEMPERATURE: Not applicable

FIRE AND EXPLOSION HAZARD: The fire hazard for this product has not been determined. The hazard(s) of the component(s) with the most severe hazard(s) are: Slight fire hazard when exposed to heat or flame. Dust - air mixtures may ignite or explode.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and oxides of sodium.

**EXTINGUISHING MEDIA**

Dry chemical, carbon dioxide, water spray or regular foam. For larger fires, use water spray, fog or regular foam.

**PROTECTION OF FIREFIGHTERS**

In case of fire, wear a full-face positive-pressure self-contained breathing apparatus and protective suit. Move container from fire area if you can do it without risk. Do not scatter spilled material with high-pressure water streams. Dike fire-control water for later disposal. Use agents suitable for type of surrounding fire. Avoid breathing vapors, keep upwind.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Wear skin, eye and respiratory protection as recommended in Section 8. Stop or reduce any leaks if it is safe to do so. Spills present a slipping hazard. Keep unnecessary personnel away. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Make sure area is slip-free before re-opening to traffic.

ENVIRONMENTAL PRECAUTIONS
Small or household quantities may be disposed in regular domestic trash. For larger quantities check with your local disposal authorities.

METHODS FOR CONTAINMENT AND CLEAN UP
SMALL SPILLS: Sweep or scoop up and place into suitable clean, dry containers for reclamation or later disposal. Wash site of spillage thoroughly with water. LARGE SPILLS: Sweep or scoop up. Dispose in suitable waste container. Keep unnecessary people away from spill.

## SECTION 7: HANDLING AND STORAGE

HANDLING:
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep the containers closed when not in use.

STORAGE:
Store in original containers in a cool dry area. Store away from excessive heat and incompatible substances. Storage areas for large quantities (warehouse) should be well ventilated. Keep the containers tightly closed when not in use.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

This product is a personal care or cosmetic product. The use of this product by consumers is safe under normal and reasonable foreseen use. The information provided below refers to the occupational settings.

WORKER EXPOSURE LIMITS
The following exposure limits exist for the ingredients listed below. The TLV-TWA is the ACGIH Threshold Limit Value – Time Weighted Average. TLV-Ceiling Limit is the ACGIH Threshold Limit Value – Ceiling Limit. PEL-TWA is the OSHA Permissible Exposure Limit. TLV-STEL is the ACGIH Short Term Exposure Limit.

| INGREDIENT | CAS NUMBER | EXPOSURE LIMIT |
|---|---|---|
| Soap Dust = Particles Not Otherwise Specified: | 67701-11-5 & 67701-10-4 | TLV-TWA: 10 $mg/m^3$ (total dust), TLV-TWA: 3 $mg/m^3$ (respirable fraction), PEL-TWA: 15 $mg/m^3$ (total dust), PEL-TWA: 5 $mg/m^3$ (respirable fraction), |
| Sodium Borate Decahydrate (Borax) | 1303-96-4 | TLV-STEL: 6 $mg/m^3$ (inhalable fraction); TLV-TWA: 2 $mg/m^3$ (inhalable fraction), PEL-TWA: 10 $mg/m^3$ |

ENGINEERING CONTROLS: Provide local exhaust or general dilution ventilation to keep exposure to airborne contaminants below the permissible exposure limits where mists or vapors may be generated.

RESPIRATOR: Air contamination monitoring should be carried out where mists or vapors are likely to be generated, to assure that the employees are not exposed to airborne contaminants above the permissible exposure limits. If respiratory protection is required, it must be based on the contamination levels found in the workplace, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

FOR FIRE FIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: Any self-contained breathing apparatus that has a full-face piece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full-face piece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure demand or other positive-pressure mode.

CLOTHING: Protective clothing is required where repeated or prolonged skin contact may occur.

GLOVES: Protective gloves are required where repeated or prolonged skin contact may occur.

EYE/FACE PROTECTION: Safety glasses are required to prevent eye contact where dusty conditions may occur.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| APPEARANCE: | White powder | | |
| ODOR/ODOR THRESHOLD: | Pleasant fragrance | PHYSICAL STATE: | Solid |
| pH (@ 25°C): | 9.1 (1% Solution) | VAPOR DENSITY: | Not available |
| BOILING POINT: | Not available | VAPOR PRESSURE: | Not available |
| MELTING/FREEZING POINT: | Not available | FLASH POINT: | See Section 5. |
| FLAMMABLE PROPERTIES: | See Section 5. | SOLUBILITY IN WATER: | ~ 5% @ 20 °C |
| DENSITY/SPECIFIC GRAVITY: | Not applicable | EVAPORATION RATE: | Not available |

OCTANOL/WATER PARTITION COEFFICIENT ($K_{ow}$): Not available

VISCOSITY (Dynamic): Not available

## SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal ambient temperature (70°F, 21°C) and pressure (1 atm).

CONDITIONS TO AVOID: Avoid contact with incompatible substances and excessive heat.

INCOMPATIBLE MATERIALS: Strong oxidizers, zirconium

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may release toxic and/or hazardous gases, including ammonia.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

## SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION SUMMARY: This product is a personal care or cosmetic product. The use of this product by consumers is safe under normal and reasonable foreseen use. Direct contact with eyes may cause eye irritation. Repeated or prolonged excessive exposure with skin may cause irritation.

COMPONENT ANALYSIS: The following toxicity information is for the hazardous ingredient(s) when used as technical grade and is provided as reference for the occupational settings.

| INGREDIENT | LD50 / DRAIZE SCORE | TOXICITY / IRRITATION RATING |
|---|---|---|
| ACUTE ORAL TOXICITY | | |
| Sodium Borate Decahydrate (Borax) | 2,660 mg/kg (rat) | Moderately Toxic |

SENSITIZATION: This product is not considered a skin or respiratory sensitizer.

CARCINOGENICITY: None of the ingredients in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the Occupational Safety and Health Administration (OSHA).

MUTAGENICITY: None of the ingredients in this product are known to cause mutagenicity.

REPRODUCTIVE/FETAL/DEVELOPMENTAL TOXICITY: None of the ingredients in this product are known as reproductive, fetal, or developmental hazards.

TARGET ORGAN TOXICITY: None of the ingredients in this product are known to have target organ toxicity.

EPIDEMIOLOGICAL INFORMATION: None of the ingredients in this product are known to have health-related information in working populations.

## SECTION 12: ECOLOGICAL INFORMATION

This product is anticipated to be safe for the environment at concentrations predicted in household settings under normal use conditions. No toxicity information is available for the hazardous ingredient(s).

ENVIRONMENTAL FATE: No environmental fate data exists for the product. The product is anticipated to be rapidly biodegradable.

PERSISTENCE AND DEGRADABILITY: The persistence and degradability of this product has not been determined.

BIOACCUMULATION POTENTIAL: The bioaccumulation potential of this product has not been determined.

MOBILITY: The mobility of this product (in soil and water) has not been determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

WASTE NUMBER AND DESCRIPTION: Not applicable, not regulated.

DISPOSAL CONSIDERATIONS: This product is not a RCRA hazardous waste and can be disposed of in accordance with federal, state and local regulations.

## SECTION 14: TRANSPORT INFORMATION

**GROUND TRANSPORT**

| | | | |
|---|---|---|---|
| DOT Hazard Class: | Not regulated | Packing Group: | Not applicable |
| DOT Proper Shipping Name: | Not applicable | Shipping Label Information: | Not applicable |
| UN/NA Number: | Not applicable | | |

**AIR TRANSPORT (ICAO/IATA)**

| | | | |
|---|---|---|---|
| ICAO/IATA Hazard Class: | Not regulated | IMDG/IMO Hazard Class: | Not regulated |
| ICAO/IATA Proper Shipping Name: | Not applicable | IMDG/IMO Proper Shipping Name: | Not applicable |

**MARINE TRANSPORT (IMDG/IMO)**

## SECTION 15: REGULATORY INFORMATION

**UNITED STATES:**

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
The Occupational Safety and Health Administration requires Material Safety Data Sheets to provide any hazards that may be associated with the product, and make this information available in the workplace. Since the use pattern and exposure in the workplace are generally not consistent with those experienced by consumers, this MSDS may contain additional health hazard information not pertinent to consumer use.

FOOD AND DRUG ADMINISTRATION:
This product is regulated as a cosmetic under the Food and Drug Administration.

EPA - SARA TITLE III SECTION 313: Not applicable - Consumer product.

EPA CERCLA/SARA TITLE III SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:
This product contains no CERCLA/SARA Title III materials. This product contains no hazardous chemicals reportable under Sections 311/312. This product contains no hazardous chemicals reportable under Section 304.

TSCA: All components of this product are either listed on or exempt from the U.S. Toxic Substances Control Act (TSCA) chemical substance inventory.

**STATE REGULATIONS**

CALIFORNIA PROPOSITION 65: This product does not contain substances listed under California Proposition 65.

**CANADA:**

CANADIAN ENVIRONMENTAL PROTECTION ACT:
INVENTORY STATUS: Some components of this product are not listed on the Canadian Domestic Substances List (DSL) nor the NDSL.

HEALTH CANADA:
This product is regulated as a cosmetic product under the Cosmetics Programme.

WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM:
WHMIS CLASSIFICATION: Not subject to classification.

## SECTION 16: OTHER INFORMATION

DISCLAIMER: The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, The Dial Corporation makes no representation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgment in determining its appropriateness for a particular purpose. Accordingly, The Dial Corporation will not be responsible for damages of any kind resulting from the use of or reliance upon such information. No representations, or warranties, either expressed or implied of merchantability, fitness for a particular purpose or of any other nature is made hereunder with respect to the information set forth herein or to the product to which the information refers.

NFPA RATINGS (Scale 0-4, where 4=high degree of hazard): HEALTH=1 FLAMMABILITY=1 REACTIVITY=0
HMIS RATINGS (Scale 0-4, where 4=severe hazard): HEALTH=1 FLAMMABILITY=1 REACTIVITY=0

MSDS CREATION DATE: 04/24/92
SUPERCEDES: 08/30/07, Rev. 8
REVISION DATE: 03/23/09
REVISION: Updated Company Information.

# CUSTOM BUILDING PRODUCTS INC -- PRE-MIXED CONCRETE PATCH -- 8010-00N079251

========== Product Identification ==========

Product ID:PRE-MIXED CONCRETE PATCH
MSDS Date:05/02/1995
FSC:8010
NIIN:00N079251
MSDS Number: CGGXY
=== Responsible Party ===
Company Name:CUSTOM BUILDING PRODUCTS INC
Address:6511 SALT LAKE AVE
City:BELL
State:CA
ZIP:90201
Country:US
Info Phone Num:213-582-0846
Emergency Phone Num:213-582-0846
Preparer's Name:STEVE TAYLOR
CAGE:CUSTO
=== Contractor Identification ===
Company Name:CUSTOM BUILDING PRODUCTS
Address:6511 SALT LAKE AVE.
City:BELL
State:CA
ZIP:90201
Country:US
Phone:213-582-0846
CAGE:CUSTO

========== Composition/Information on Ingredients ==========

Ingred Name:ETHYLENE GLYCOL (SARA 313) (CERCLA). VP:0.1 @ 68F.
LD50:(ORAL,RAT) 6,000-13,000 MG/KG.
CAS:107-21-1
RTECS #:KW2975000
OSHA PEL:N/K
ACGIH TLV:50 PPM, VAPOR, C
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:CALCIUM CARBONATE
CAS:1317-65-3
RTECS #:EV9580000
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:VM & P NAPHTHA; (ALIPHATIC HYDROCARBONS). VP:15 @ 68F.
CAS:64742-89-8
OSHA PEL:500 PPM (MFR)
ACGIH TLV:N/K

Ingred Name:ACRYLIC COPOLYMERS
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:SEE INGREDIENT 1.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE:INHALATION:VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE, THROAT AND LUNGS. SKIN CONTACT:IRRITATING UPON REPEATED OR PROLONGED CONTACT. EYE CONTACT:SLIGHT (TEMPORARY) IRRIT ATION. CORNEAL INJURY IS UNLIKELY. SKINABSORPTION:REPEATED EXPOSURE TO LARGE QUANTITIES MAY RESULT IN (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:HLTH HAZ:ABSORPTION OF HARMFUL AMOUNTS. INGESTION:AMOUNTS INGESTED INCIDENTAL TO INDUSTRIAL HANDLING NOT LIKELY TO CAUSE INJURY; HOWEVER, INGESTION OF LARGER AMOUNTS COULD CAUSE SERIOUS INJURY, EVEN D EATH. CHRONIC:EXCESSIVE EXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM, KIDNEY, BLOOD & POSSIBLE LIVER EFFECTS.
Medical Cond Aggravated by Exposure:PRE-EXISTING SKIN, EYE & RESPIRATORY CONDITIONS MAY BE AGGRAVATED BY EXPOSURE TO ETHYLENE GLYCOL.

========== First Aid Measures ==========

First Aid:EYES:IMMEDIATELY FLUSH W/WATER FOR AT LEAST 15 MINUTES. SEE MD IF IRRITATION RESULTS. SKIN:WASH W/WATER. SEEK MEDICAL ATTENTION IF IRRITATION RESULTS. INHAL:REMOVE TO FRESH AIR. INGEST:IMMEDIATELY IND UCE VOMITING BY GIVING TWO GLASSES OF WATER & STICKING FINGER DOWN THROAT. CALL MD.

========== Fire Fighting Measures ==========

Flash Point:NONE
Extinguishing Media:FOAM, CO*2, DRY CHEMICAL, WATER FOG.
Fire Fighting Procedures:USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT . CLOSED CONTAINERS MAY RUPTURE IF EXPOSED TO EXTREME TEMPERATURES.
Unusual Fire/Explosion Hazard:MATERIAL CAN SPLATTER ABOVE 100C/212F. ACRYLIC POLYMER FILM CAN BURN & CONTAINERS MAY RUPTURE IF EXPOSED TO EXTREME TEMPERATURES.

========== Accidental Release Measures ==========

Spill Release Procedures:AVOID ENTRY INTO SEWERS OR NATURAL WATER WAYS. SMALL SPILLS:SOAK UP W/ABSORBANT MATERIAL. LARGE SPILLS:DIKE & PUMP INTO SUITABLE CONTAINERS FOR DISPOSAL.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:STORE IN COOL, DRY AREA OUT OF SUNLIGHT. STORE AWAY FROM HEAT OR ANY HEAT SOURCES. PROTECT FROM FREEZING.
Other Precautions:NONE.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:IF EXPOSURE MAY EXCEED TLV VALUE, USE A NIOSH APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE.
Ventilation:GENERAL MECHANICAL VENTILATION MAY BE SUFFICIENT TO KEEP VAPOR CONCENTRATIONS W/IN SPECIFIED TLV RANGES.
Protective Gloves:PLASTIC OR RUBBER GLOVES.
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .

Other Protective Equipment:EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET ANSI DESIGN CRITERIA . ADEQ CLTHG SHOULD BE WORN TO PVNT SKIN CONT.
Work Hygienic Practices:HYGIENE & GOOD HOUSEKEEPING PRACTICES SHOULD BE OBSERVED.
Supplemental Safety and Health
NONE SPECIFIED BY MANUFACTURER.

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:212F,100C
Vapor Pres:SEE INGS
Vapor Density:HVR/AIR
Spec Gravity:1.6 (H*2O=1)
Evaporation Rate & Reference:SLOWER THAN ETHER
Solubility in Water:SOLUBLE UNTIL DRIED
Appearance and Odor:WHITE, CREAMY PASTE; MILD ACRYLIC ODOR.

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
AVOID CONTACT W/STRONG OXIDIZING MATERIALS. ETHYLENE GLYCOL WILL REACT VIOLENTLY W/CHLOROSULFONIC ACID, OLEUM, H2SO4.
Stability Condition to Avoid:NONE KNOWN.
Hazardous Decomposition Products:THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD CARBON MONOXIDE &/OR CARBON DIOXIDE.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE OF PRODUCT I/A/W APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS.

Prestone

# PRESTONE ANTIFREEZE/COOLANT
# MSDSP149

## SECTION 1: IDENTIFICATION

MSDS ID: MSDSP149

PRODUCT NAME: PRESTONE ANTIFREEZE/COOLANT
Product Number: AF777
Formula Number: YA721, YA718, YA718B

MANUFACTURER: Prestone Products Corporation
39 Old Ridgebury Road
Danbury, CT 06810-5109

INFORMATION PHONE NUMBER: (203) 731-3686

EMERGENCY PHONE NUMBER: CHEMTREC 1-800-424-9300
483-7161 in the District of Columbia

MSDS DATE OF PREPARATION/REVISION: 10/18/99

## SECTION 2: PRODUCT COMPONENTS

| HAZARDOUS COMPONENTS | CAS# | PERCENT | EXPOSURE LIMITS |
|---|---|---|---|
| Ethylene Glycol (aerosol) | 107-21-1 | 80-96 | None Established-OSHA PEL 100 mg/m3 Ceiling ACGIH TLV |
| Diethylene Glycol | 111-46-6 | 0-8 | None Established OSHA PEL, ACGIH TLV |

Non-Hazardous Ingredients >1%
Water 7732-18-5

## SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Eye and upper respiratory irritant. May cause nausea, vomiting, headache, drowsiness, blurred vision, convulsions, coma or death if ingested or inhaled. Prolonged or repeated skin contact may cause dermatitis or skin sensitization.

POTENTIAL HEALTH EFFECTS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: Following ingestion, a bitter taste may be noted. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. See section 11 for additional information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: The available toxicological information and a knowledge of the physical and chemical properties of the material suggest that overexposure in unlikely to aggravate existing medical conditions.

CARCINOGEN: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

## SECTION 4: FIRST AID MEASURES

INHALATION: Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

EYE CONTACT: Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

INGESTION: Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

NOTES TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methylpyrazole (Antizole(R) or Fomepizole), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center. This antidote is now approved by the F.D.A. and in many cases has replaced ethanol in the treatment of ethylene glycol poisoning.

## SECTION 5: FIRE AND EXPLOSION DATA

FLASH POINT: 242 F (117 C) TOC
220 F (104 C) PMCC

AUTOIGNITION TEMPERATURE: Not determined

FLAMMABILITY LIMITS: LEL: 3.2% UEL: 15.3%

EXTINGUISHING MEDIA: For large fires, use alcohol type or all-purpose foams. For small fires, use water spray, carbon dioxide or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray pool fires directly. Cool fire exposed containers with water. Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

UNUSUAL FIRE HAZARDS: A solid stream of water or foam directed into hot, burning liquid can cause frothing.

HAZARDOUS COMBUSTION PRODUCTS: Burning may produce carbon monoxide and carbon dioxide.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear appropriate protective clothing and equipment (See Section 8). Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

## SECTION 7: HANDLING AND STORAGE

DANGER: Harmful or Fatal if Swallowed

Do not drink antifreeze or solution.
Avoid eye and prolonged or repeated skin contact.
Avoid breathing vapors or mists.
Wash exposed skin thoroughly with soap and water after use.
Do not store in opened or unlabeled containers.

Keep container away from open flames and excessive heat.
Do not reuse empty containers unless properly cleaned.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty.

Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist prefilters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as neoprene or PVC where contact is possible

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact. Suitable washing and eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered before re-use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Yellow liquid with a mild odor.

| | |
|---|---|
| pH: Not determined | SPECIFIC GRAVITY: 1.12 |
| BOILING POINT (F): 334 F | VAPOR PRESSURE: Less than 0.1 |
| FREEZING POINT (F): -8 F | VAPOR DENSITY: 2.1 |
| SOLUBILITY IN WATER: 100% | EVAPORATION RATE: Less than 1 |
| PERCENT VOLATILE: None | VISCOSITY: Not determine |

## SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None known.
INCOMPATIBILITY: Normally unreactive, however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.
DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: None known.

## SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY VALUES:

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg
LD50 Skin Rabbit: 11,890 mg/kg

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH:
Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure

resulted in maternal toxicity (1,000 and 2,500 mg/m3) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

This products contains less than 0.5% tolytriazole which has demonstrates mutagenic activity in a bacterial test system. A correlation has been established between mutagenic activity and carcinogenic activity for many chemicals. Tolytriazole has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA.

## SECTION 12: ECOLOGICAL INFORMATION

Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.

Toxicity threshold (cell multiplication inhibition test):
Bacterial (Pseudomonas putida): 10,000 mg/l
Protozoa (Entosiphon sulcatum and Uronema parduczi Chatton-Lwoff): >10,000 mg/l
Algae (Microcystis aeruginosa): 2,000 mg/l
Green algae (Scenedesmus quandricauda): >10,000 mg/l

## SECTION 13: DISPOSAL INFORMATION

Dispose of product in accordance with all local, state/provincial and federal regulations.

## SECTION 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASSIFICATION

PROPER SHIPPING NAME: None
UN NUMBER: None
LABELS REQUIRED: None

DOT MARINE POLLUTANTS: This product does not contains Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION

DESCRIPTION: Not Regulated

Note: IF A BULK SHIPMENT IS INVOLVED, THE FOLLOWING INFORMATION APPLIES:

U.S. DOT HAZARD CLASSIFICATION

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S. (Ethylene glycol)
UN NUMBER: UN3082
LABELS REQUIRED: Class 9, UN3082

## SECTION 15: REGULATORY INFORMATION

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

| | | |
|---|---|---|
| Ethylene Glycol | 107-21-1 | 80-96% |

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (96% maximum) of 5,000 lbs, is 5,208 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65 - This product may contain the following substances known to the State of California to cause Cancer and/or Reproductive Harm: 1,4-Dioxane (trace amount).

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision B - (A toxic material causing other chronic effects)

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.

AUSTRALIA: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

## SECTION 16: OTHER INFORMATION

NFPA RATING (NFPA 704) - FIRE: 1
HEALTH: 2
REACTIVITY: 0

REVISION SUMMARY: Section 4: Notes to Physican
Section 9: Specific Gravity
Section 16: Contact Name and Address

This MSDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact: Stan Prusakowski
Prestone Products Corporation
55 Federal Road
Danbury, CT 06810
(203)830-7865

PRESTONE PRODUCTS CORPORATION -- HEAVY DUTY BRAKE FLUID AS401 -- 9150-00F054444

========== Product Identification ==========

Product ID:HEAVY DUTY BRAKE FLUID AS401
MSDS Date:04/07/1997
FSC:9150
NIIN:00F054444
MSDS Number: CFXWT
=== Responsible Party ===
Company Name:PRESTONE PRODUCTS CORPORATION
Address:39 OLD RIDGEBURY ROAD
City:DANBURY
State:CT
ZIP:06810-5109
Country:US
Info Phone Num:203-830-7800
Emergency Phone Num:203-830-7800
CAGE:EO340
=== Contractor Identification ===
Company Name:PRESTONE PRODUCTS CORPORATION
Address:55 FEDERAL ROAD
City:DANBURY
State:CT
ZIP:06810
Country:US
Phone:203-830-7865
CAGE:EO340

========== Composition/Information on Ingredients ==========

Ingred Name:DIETHYLENE GLYCOL METHYL ETHER, 2-(2-METHOXYETHOXY) ETHANOL
METHYL CARBITOL
CAS:111-77-3
RTECS #:KL6125000
Fraction by Wt: 0-5%

Ingred Name:DIETHYLENE GLYCOL ETHYL ETHER, CARBITOL, CARBITOL
CELLOSOLVEETHOXY DIGLYCOL, 2-(2-ETHOXYETHOXY)-ETHANOL
CAS:111-90-0
RTECS #:KK8750000
Fraction by Wt: 0-10%

Ingred Name:TERGITOL NONIONIC XD, TERGITOL XD
CAS:9038-95-3
RTECS #:MD0911000
Fraction by Wt: 0-10%

Ingred Name:TRIETHYLENE GLYCOL
CAS:112-27-6
RTECS #:YE4550000
Fraction by Wt: 0-10%

Ingred Name:2-(2-PROPYOXYETHOXY)ETHANOL
CAS:6881-94-3
Fraction by Wt: 0-5%

Ingred Name:PROPRIETARY ADDITIVES
Fraction by Wt: 0-5%

Ingred Name:BUTOXYTRIGLYCOL
CAS:143-22-6
RTECS #:KJ9450000
Fraction by Wt: 0-70%

Ingred Name:METHOXYTRIGLYCOL
CAS:112-35-6
RTECS #:KL6390000
Fraction by Wt: 0-40%

Ingred Name:TRIETHYLENE GLYCOL MONOETHYL ETHER *97-3*
CAS:112-50-5
RTECS #:KK8950000
Fraction by Wt: 0-70%

Ingred Name:POLYETHYLENE GLYCOL; POLYOXYETHYLENE; PEG 400; PEG 75; PEG 4000; PEG 8000 *97-3*
CAS:25322-68-3
RTECS #:TQ3500000
Fraction by Wt: 0-80%
Other REC Limits:10 MG/CUM

Ingred Name:TETRAETHYLENE GLYCOL, MONOBUTYL ETHER
CAS:1559-34-8
Fraction by Wt: 0-80%

Ingred Name:PENTAETHYLENE GLYCOL *97-3*
CAS:4792-15-8
RTECS #:RZ2670000
Fraction by Wt: 0-80%

Ingred Name:GLYCOL ETHERS, DIETHYLENE GLYCOL, 2,2-OXYBISETHANOL
CAS:111-46-6
RTECS #:ID5950000
Fraction by Wt: 0-80%

Ingred Name:POLYETHYLENE GLYCOL ETHYL ETHER
CAS:27879-07-8
Fraction by Wt: 0-80%

Ingred Name:TETRAETHYLENE GLYCOL
CAS:112-60-7
RTECS #:XC2100000
Fraction by Wt: 0-80%

Ingred Name:POLYETHYLENE GLYCOL MONOMETHYL ETHER *97-3*
CAS:9004-74-4
RTECS #:PE2630000
Fraction by Wt: 0-25%

Ingred Name:TETRAETHYLENE GLYCOL MONOMETHYL ETHER
CAS:23783-42-8
Fraction by Wt: 0-20%

Ingred Name:POLYETHYLENE GLYCOL BUTYL ETHER
CAS:9004-77-7
Fraction by Wt: 0-25%

Ingred Name:2-(2-BUTOXYETHYOXY)-ETHANOL, DIETHYLENE GLYCOL MONOBUTYL
ETHER (BUTYL CARBITOL) *97-3*
CAS:112-34-5
RTECS #:KJ9100000
Fraction by Wt: 0-10%

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:NO Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INHALATION: IRRITATING TO RESPIRATORY/MUCOUS MEMBRANES. SKIN: IRRITATION/DERMATITIS W/PROLONGED/REPEATED CONTACT. EYES: IRRITANT, POSSIBLE CORNEAL DAMAGE. INGESTION: LARGE AMOUNTS MAY CAUSE CNS DEPRES SION & KIDNEY/LIVER DAMAGE. CHRONIC EFFECTS, ACIDOSIS. GI IRRITANT. CAUSES ADVERSE REPRODUCTIVE EFFECTSE/RENAL FAILURE.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:IRRITATION, GASTROINTESTINAL DISTURBANCES, NAUSEA, VOMITING, DIARRHEA, NASAL DISCOMFORT & DISCHARGE, DROWSINESS, GI DISCOMFORT, HEADACHE, DIZZINESS, NARCOSIS, SLURRED SPEECH, BLURRED VISION

========== First Aid Measures ==========

First Aid:INHALATION: REMOVE TO FRESH AIR. SKIN: WASH W/SOAP & WATER. EYES: IMMEDIATELY FLUSH W/COPIOUS AMOUNTS OF WATER USING A STEADY STREAM FOR A MINIUM OF 15 MINS. INGESTION: DON'T GIVE ANYTHING BY MOUTH IF UNCONSCIOUS. OBTAIN MEDICAL ATTENTION IN ALL CASES. NOTES TO PHYSICIAN: TMEATMENT SHOULD BE DIRECTED AT THE CONTROL OF SYMPTOMS & CLINICAL CONDITIONS.

========== Fire Fighting Measures ==========

Flash Point Method:PMCC
Flash Point:218-275F
Extinguishing Media:WATER FOG, FOAM, ALCOHOL FOAM, CO2/DRY CHEMICAL
Fire Fighting Procedures:COOL FIRE EXPOSED CONTAINERS W/WATER. WEAR POSITIVE PRESSURE SCBA & FULL PROTECTIVE CLOTHING FOR FIRES IN AREAS WHERE CHEMICALS ARE USED/STORED.
Unusual Fire/Explosion Hazard:A DIRECT STREAM OF WATER/FOAM MAY CAUSE FROTHING.

========== Accidental Release Measures ==========

Spill Release Procedures:WEAR APPROPRIATE PROTECTIVE CLOTHING & EQUIPMENT. COLLECT MATERIAL W/ABSORBENT MATERIAL & PLACE IN APPROPRIATE LABELED CONTAINER FOR DISPOSAL.

========== Handling and Storage ==========

Handling and Storage Precautions:KEEP CONTAINERS CLOSED WHEN NOT IN USE. STORE IN A COOL, DRY AREA. KEEP AWAY FROM EXCESSIVE HEAT/OPEN FLAMES. USE W/ADEQUATE VENTILATION.

Other Precautions:DON'T REUSE EMPTY CONTAINERS UNLESS CLEANED. DON'T CUT, WELD, DRILL CONTAINERS, EVEN EMPTY. AVOID EYE CONTACT & PROLONGED SKIN CONTACT. AVOID BREATHING VAPORS/MISTS.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:FOR OPERATIONS WHERE EXPOSURES MAY BE EXCESSIVE, A NIOSH/MSHA APPROVED RESPIRATOR W/AN ORGANIC VAPOR CARTRIDGE & A DUST/MIST PREFILTER/SUPPLIED AIR RESPIRATOR IS RECOMMENDED.
Ventilation:GENERAL FOR NORMAL USE. MECHANICAL/LOCAL EXHAUST: FOR OPERATIONS WHERE PRODUCT IS HEATED/MISTED & EXPOSURES IS EXCESSIVE
Protective Gloves:POLYVINYL CHLORINE COATED
Eye Protection:SPLASH PROOF GOGGLES
Other Protective Equipment:PROTECTIVE CLOTHING, EYE WASHING/FLUSHING FACILITIES
Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. WASH EXPOSED SKIN THOROUGHLY W/SOAP & WATER AFTER USE.
Supplemental Safety and Health

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:>430F
Melt/Freeze Pt:M.P/F.P Text:<-40F
Vapor Density:>1
Spec Gravity:8.5-8.7
pH:9-9.8
Solubility in Water:COMPLETE
Appearance and Odor:CLEAR AMBER/YELLOW LIQUID W/MILD ODOR
Percent Volatiles by Volume:100

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
NITRITES, NITROSATING AGENTS, STRONG OXIDIZING AGENTS
Hazardous Decomposition Products:CO, CO2, NITROGEN OXIDES, NITROSAMINE

========== Disposal Considerations ==========

Waste Disposal Methods:RECYCLE, INCINERATE, TREAT/LANDFILL IN ACCORDANCE W/LOCAL, STATE & FEDERAL REGULATIONS.

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# SAFETY DATA SHEET

**Issuing Date** January 5, 2015 **Revision Date** New **Revision Number** 0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** **Clorox Commercial Solutions® Formula 409® Cleaner Degreaser Disinfectant**

**Other means of identification**

**EPA Registration Number** 67619-10

**Recommended use of the chemical and restrictions on use**

**Recommended Use** General purpose cleaner, degreaser, and disinfectant

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier Address**
Clorox Professional Products Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

**Emergency telephone number**

**Emergency Phone Numbers** For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**Classification**

This mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | |
|---|---|
| Skin corrosion/irritation | Category 3 |

**GHS Label elements, including precautionary statements**

**Emergency Overview**

**Signal word** **Warning**

**Hazard statements**
Causes mild skin irritation

No pictogram required.

**Appearance** Clear, green **Physical State** Thin liquid **Odor** Floral, citrus

**Precautionary Statements - Prevention**
None

**Precautionary Statements - Response**
If skin irritation occurs: Get medical advice.

**Precautionary Statements - Storage**
None

**Precautionary Statements - Disposal**
None

**Hazards not otherwise classified (HNOC)**
Not applicable

**Unknown Toxicity**
0.2% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**
Very toxic to aquatic life with long-lasting effects.

**Interactions with Other Chemicals**
None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % | Trade Secret |
|---|---|---|---|
| Lauramine oxide | 1643-20-5 | 0.5 - 1.5 | * |
| n-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride | 68424-85-1 | 0.2 - 0.4 | * |

* The exact percentage (concentration) of composition has been withheld as a trade secret

## 4. FIRST AID MEASURES

**First aid measures**

**General Advice** Show this safety data sheet to the doctor in attendance.

**Eye Contact** Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin Contact** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Inhalation** Move to fresh air. If breathing is affected, call a doctor.

**Ingestion** Call a poison control center or doctor immediately for treatment advice. Have person sip a glassful of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** Mild irritation of eyes and skin.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**
No information available

**Explosion Data**

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Avoid contact with eyes and skin.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental Precautions** See Section 12 for additional ecological Information

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool, and well-ventilated place.

**Incompatible Products** None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Lauramine oxide<br>1643-20-5 | None | None | None |
| n-Alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride<br>68424-85-1 | None | None | None |

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.*

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/Face Protection** | If splashes are likely to occur, wear safety glasses with side-shields. None required for consumer use. |
| **Skin and Body Protection** | No special protective equipment required. |
| **Respiratory Protection** | If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| **Hygiene Measures** | Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes, or clothing. Do not eat, drink, or smoke when using this product. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

| | | | |
|---|---|---|---|
| **Physical State** | Thin liquid | | |
| **Appearance** | Clear | **Odor** | Floral, citrus |
| **Color** | Green | **Odor Threshold** | No information available |

| **Property** | **Values** | **Remarks/ Method** |
|---|---|---|
| **pH** | 9 - 11.5 | None known |
| **Melting/freezing point** | No data available | None known |
| **Boiling Point/Range** | No data available | None known |
| **Flash Point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limits in Air** | | |
| **Upper flammability limit** | No data available | None known |
| **Lower flammability limit** | No data available | None known |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | No data available | None known |
| **Specific Gravity** | ~1.0 | None known |
| **Water Solubility** | Soluble in water. | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive Properties** | Not explosive | |
| **Oxidizing Properties** | No data available | |

**Other Information**

| | |
|---|---|
| **Softening Point** | No data available |
| **VOC Content (%)** | No data available |
| **Particle Size** | No data available |
| **Particle Size Distribution** | No data available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No data available.

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
None known.

**Incompatible materials**
None known.

**Hazardous Decomposition Products**
None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | Exposure to vapor or mist may irritate respiratory tract. |
| **Eye Contact** | May cause eye irritation. |
| **Skin Contact** | Prolonged contact may cause irritation. |
| **Ingestion** | Ingestion may cause irritation to mucous membranes and gastrointestinal irritation, nausea, vomiting, and diarrhea. |

**Information on toxicological effects**

| | |
|---|---|
| **Symptoms** | May cause redness and tearing of the eyes and skin redness. |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

| | |
|---|---|
| **Sensitization** | No information available. |
| **Mutagenic Effects** | No information available. |
| **Carcinogenicity** | Contains no ingredient listed as a carcinogen. |
| **Reproductive Toxicity** | No information available |
| **STOT - single exposure** | No information available. |
| **STOT - repeated exposure** | No information available. |
| **Chronic Toxicity** | No known effect. |
| **Target Organ Effects** | Respiratory system, eyes, skin, gastrointestinal tract (GI). |
| **Aspiration Hazard** | No information available. |

**Numerical measures of toxicity Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document** Not applicable.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Very toxic to aquatic life with long lasting effects.

**Persistence and Degradability**
No information available.

**Bioaccumulation**
No information available.

**Other Adverse Effects**
No information available.

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**
Dispose of in accordance with all applicable federal, state, and local regulations.

**Contaminated Packaging**
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | Not regulated |
| **TDG** | Not regulated |
| **ICAO** | Not regulated |
| **IATA** | Not regulated |
| **IMDG/IMO** | Not regulated |

## 15. REGULATORY INFORMATION

### Chemical Inventories

| | |
|---|---|
| **TSCA** | All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing. |
| **DSL/NDSL** | All components are on the DSL or NDSL. |

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. Federal Regulations

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | No |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**Clean Water Act**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**EPA Statement**
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **CAUTION:** Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Avoid contact with foods.

## U.S. State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|---|---|---|---|---|---|
| Ethanolamine<br>141-43-5 | X | X | X | - | X |

## International Regulations

**Canada**
**WHMIS Hazard Class**
D2B Toxic Materials

## 16. OTHER INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health Hazard** | 1 | **Flammability** | 0 | **Instability** | 0 | **Physical and Chemical Hazards** - |
| **HMIS** | **Health Hazard** | 1 | **Flammability** | 0 | **Physical Hazard** | 0 | **Personal Protection** B |

**Prepared By**

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Preparation/Revision Date** January 5, 2015

**Revision Date** New

**Revision Note** New

**Reference** 1050911/166962.001

**General Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of Safety Data Sheet**

# GHS SAFETY DATA SHEET (SDS)

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**Product: PT5225B**

**PTM & W INDUSTRIES, INC.** **PHONE NUMBER: (562) 946-4511**
**10640 S. PAINTER AVE.** ***CHEMICAL TRANSPORTATION EMERGENCY:***
**SANTA FE SPRINGS, CA. 90670-4092** **CHEMTREC (800) 424-9300**

DATE OF PREPARATION: 5/8/2015 SUPERSEDES: 5/19/2014

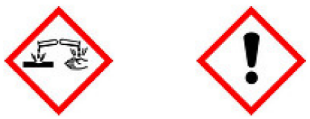
**Product Type: Modified Amine Mixture**

**Product Use: Industrial Curing Agent supplied exclusively for workplace use.**

**Signal Word: Danger**

**Hazard Label(s):**

Corrosive Irritant



**Hazard statement(s):**
**H318:** Causes serious eye damage. (Eye Dam. 1)
**H302:** Harmful if swallowed. (Acute Tox. 4 Oral)
**H332:** Harmful if inhaled. (Acute Tox. 4 Inhalation)
**H317:** May cause an allergic skin reaction. (Skin Sens. 1)

**Precautionary statement(s):**
**P202:** Do not handle until all safety precautions have been read and understood
**P261:** Avoid breathing dust/fume/gas/mist/vapours/spray.
**P270:** Do not eat, drink or smoke when using this product.
**P281:** Use personal protective equipment as required.
**P285:** In case of inadequate ventilation wear respiratory protection.
**P273:** Avoid release to the environment.

## SECTION 2 — HAZARD(S) IDENTIFICATION

| NO. | CANCER | REPRO-TOX | TARGET ORGANS | ACGIH/TLV | OSHA/PEL |
|---|---|---|---|---|---|
| P | NO | NO | UNKNOWN | N.A.mg/M$^3$ | N.A.mg/M$^3$ |



## SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

UNDER GHS-OSHA §4.11 THE PRECISE COMPOSITION OF THIS PRODUCT IS WITHHELD AS CONFIDENTIAL BUSINESS INFORMATION (CBI). A MORE COMPLETE DISCLOSURE CAN BE PROVIDED TO A HEALTH, OR SAFETY PROFESSIONAL WHEN NECESSARY.

**Substance/Mixture: Mixture**

| NO. | COMPONENT | CAS. NO. | PERCENT |
|---|---|---|---|
| P | MODIFIED AMINE MIXTURE | N.A. | < 100% |

## SECTION 4 — FIRST–AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

- **EYES**: IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.
- **SKIN:** WASH AFFECTED AREA IMMEDIATELY WITH LARGE AMOUNTS OF SOAP AND WATER. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. CONTACT A PHYSICIAN IF IRRITATION OCCURS.
- **INHALATION:** REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.
- **INGESTION:** DO NOT INDUCE VOMITING. GIVE LARGE QUANITIES OF WATER. CALL A PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

## SECTION 5 — FIRE–FIGHTING MEASURES

FLASH POINT: ≥ 200ºF (FOR PRODUCT OR LOWEST FLASH POINT INGREDIENT)
FLAMMABILITY CLASSIFICATION: COMBUSTIBLE CLASS (IIIB)
EXTINGUISHING MEDIA: WATER FOG, DRY CHEMICAL, CARBON DIOXIDE, OR FOAM.
**NOTE:** EITHER ATMOSPHERE-SUPPLY OR AIR-PURIFYING RESPIRATORS SHOULD BE AVAILABLE FOR FIRE FIGHTERS (20 CFR 1910.134).

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

- **IF MATERIAL IS SPILLED:** AVOID CONTACT WITH MATERIAL. PERSONS NOT WEARING PROPER PROTECTIVE EQUIPMENT (SEE BELOW) SHOULD BE EXCLUDED FROM THE AREA UNTIL CLEAN UP IS COMPLETE. DIKE AREA TO PREVENT SPILL SPREADING AND SCOOP UP EXCESS TO RECOVERY CONTAINERS. ABSORB REMNANT ON NONCOMBUSTIBLE MATERIAL SUCH AS CLAY AND SHOVEL INTO CONTAINERS FOR DISPOSAL.
- **WASTE DISPOSAL METHOD:** DISPOSE OF ANY WASTE(S) GENERATED ABOVE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

## SECTION 7 — HANDLING AND STORAGE

- AVOID SKIN AND EYE CONTACT.
- AVOID BREATHING VAPOR, MIST OR FUMES.
- ENSURE THAT ALL CONTAINERS ARE PROPERLY LABELED TO PREVENT ACCIDENTAL INGESTION OR IMPROPER DISPOSAL.
- RESEAL PARTLY USED CONTAINERS.
- WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR USING TOILET FACILITIES.
- STORE UNDER COOL, DRY CONDITIONS AND AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.
- OBSERVE CONDITIONS OF GOOD INDUSTRIAL HYGIENE AND SAFE WORKING PRACTICE.

## SECTION 8 — EXPOSURE CONTROLS/ PERSONAL PROTECTION

- **RESPIRATORY PROTECTION:** NOT NORMALLY NECESSARY UNLESS THE MATERIAL IS BEING USED IN SUCH A WAY AS TO PRODUCE DUST, MIST, VAPOR, FUMES, OR SMOKE, IN WHICH CASE NIOSH APPROVED RESPIRATORY PROTECTION SHOULD BE USED.
- **VENTILATION:** SHOULD BE SUFFICIENT TO CONTROL ANY DUST, MIST, VAPOR OR FUMES PRODUCED BY PROCESSING OR HANDLING METHOD. BREATHING OF VAPOR MUST BE AVOIDED.
- **HAND PROTECTION:** IMPERVIOUS GLOVES, NEOPRENE OR NILRILE RUBBER GLOVES.
- **EYE PROTECTION:** SPLASH PROOF GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.
- **OTHER PROTECTIVE EQUIPMENT:** CLEAN, BODY COVERING CLOTHING AND FOOTWEAR.

## SECTION 9 —PHYSICAL AND CHEMICAL PROPERTIES

- PHYSICAL STATE.....: LIQUID
- ODOR .....: AMMONIA LIKE
- COLOR .....: AMBER
- pH .....: ALKALINE
- SP. GR.....: 1.08
- DENSITY .....: 9.0 lbs. / gal.
- VAPOR PRESSURE.....: NEGLIGIBLE

NOTE: OTHER PROPERTIES ARE EITHER NOT AVAILABLE, OR DO NOT APPLY.

## SECTION 10 — STABILITY AND REACTIVITY

- **STABILITY:** STABLE UNDER NORMAL STORAGE CONDITIONS. UNSTABLE AT ELEVATED TEMPERATURES. SLOWLY CORRODES COPPER, ALUMINUM, ZINC AND GALVANIZED SURFACES.
- **INCOMPATIBILITY:** STRONG OXIDIZING AGENTS, ORGANIC, LEWIS, OR MINERAL ACIDS, NITROUS ACID, SODIUM HYPOCHLORITE, AND PEROXIDES.
- **HAZARDOUS DECOMPOSITION PRODUCTS:** OXIDES OF CARBON AND NITROGEN, NITRIC ACID, NITROSOAMINE, AND OTHER UNKNOWN ORGANIC COMPOUNDS.



## SECTION 11 — TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE:

ACUTE:

- **EYES:** CAUSES SEVERE CONJUNCTIVAL IRRITATION, CORNEAL INJURY AND IRITIS.
- **SKIN:** MAY CAUSE IRRITATION, BURNS, ULCERATION, OR SKIN SENSITIZATION.
- **INHALATION:** VAPORS ARE IRRITATING AND MAY CAUSE TEARS, BURNING OF NOSE AND THROAT, COUGHING, WHEEZING, NAUSEA, AND VOMITING.
- **INGESTION:** MODERATELY TOXIC, MAY CAUSE MOUTH AND THROAT BURNS, ABDOMINAL PAIN, NAUSEA, VOMITING, WEAKNESS, THIRST, AND COMA.

CHRONIC:

- AMINE VAPORS MAY CAUSE LIVER & KIDNEY INJURY. EYE, SKIN OR LUNG DISORDERS MAY DEVELOP OR BE AGGRAVATED BY AMINES.

## SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICITY EFFECTS:

- **AQUATIC TOXICITY:** NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.
- **TOXICITY TO OTHER ORGANISMS:** NO DATA AVAILABLE.

PERSISTANCE AND DEGRADABILITY:

- **MOBILITY:** NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.
- **BIOACCUMULATION:** NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.

## SECTION 13 — DISPOSAL CONSIDERATIONS

- **WASTE DISPOSAL METHOD:** DISPOSE OF WASTE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
- **CONTAINER DISPOSAL:** SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUE, ALL LABELED HAZARD PRECAUTIONS MUST BE OBSERVED. CONSULT WITH FEDERAL, STATE. AND LOCAL AUTHORITIES FOR DEFINITIONS OF “EMPTY” AND PROPER DISPOSAL PRACTICES.

## SECTION 14 — TRANSPORT INFORMATION

- **U.S. Department of Transportation Ground (49 CFR)**

UN NUMBER.....: UN 1760
PROPER SHIPPING NAME.....: CORROSIVE LIQUID, N.O.S.
CONTAINS.....: MODIFIED AMINE MIXTURE
HAZARD CLASS.....: 8
PACKAGING GROUP.....: III

- **International Air Transportation (ICAO/IATA)**

UN NUMBER.....: UN 1760
PROPER SHIPPING NAME.....: CORROSIVE LIQUID, N.O.S.
CONTAINS.....: MODIFIED AMINE MIXTURE
HAZARD CLASS.....: 8
PACKAGING GROUP.....: III

- **Water Transportation (IMO/IMDG)**

UN NUMBER.....: UN 1760
PROPER SHIPPING NAME.....: CORROSIVE LIQUID, N.O.S.
CONTAINS.....: MODIFIED AMINE MIXTURE
HAZARD CLASS.....: 8
PACKAGING GROUP.....: III
MARINE POLLUTANT .....: NO

## SECTION 15 — REGULATORY INFORMATION

### A. CAL SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT OF 1986

| NO. | CHEMICAL NAME | CAS. NO. | CANCER/REPRO.TOX | QUANTITY |
|---|---|---|---|---|

THIS PRODUCT MAY CONTAIN TRACES OF PROP. 65 LISTED CHEMICALS AS IMPURITIES. HOWEVER, ANY USED AS INGREDIENTS ARE LISTED ABOVE.

### B. CERCLA — §40 CFR 302.4

RELEASES EXCEEDING THE REPORTABLE QUANTITY **(RQ)** MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER. (800)424-8802

RQ = 100 lbs. (UNLISTED HAZARDOUS WASTE — CHARACTERISTIC OF CORROSIVITY)

### C. RCRA — §40 CFR 261.33

RQ = 1000 lbs. (UNLISTED CORROSIVE CONTENT > 10%)

### D. SARA TITLE III — §52 CFR 13378, §52 CFR 21152

| NO. | RQ (lbs.) (•1) | TPQ (lbs.) (•2) | SEC.313 (•3) | 313 CAT. (•4) | 311/312 (•5) |
|---|---|---|---|---|---|
| P | NONE | NOT LISTED | NOT LISTED | NONE | H1, H2 |

•1 = REPORTABLE QUANTITY OF EXTREMELY HAZARDOUS SUBSTANCE, SEC. 302
•2 = THRESHOLD PLANNING QUANTITY, EXTREMELY HAZARDOUS SUBSTANCE, SEC. 302
•3 = TOXIC CHEMICAL, SEC. 313 (INDIVIDUAL CHEMICAL LISTED)
•4 = TOXIC RELEASE INVENTORY FORM CATEGORY SEC. 313 (40 CFR 372.65 C)
•5 = HAZARD CATEGORY FOR SARA SEC. 311/312 REPORTING
**H1** = IMMED. (ACUTE) HEALTH HAZARD **H2** = DELAYED (CHRONIC) HEALTH HAZARD
**P3 =** FIRE HAZARD **P4** = SUDDEN PRESSURE RELEASE HAZARD **P5** = REACTIVE HAZ.

### E. VOC — SCAQMD RULES

| NO. | CHEMICAL | QUANTITY | VP mm HG | gms./l. @ 20ºC |
|---|---|---|---|---|
| | NIL | | | |

**NOTE:** THIS PRODUCT DOES NOT CONTAIN SOLVENTS, BUT MAY CONTAIN INGREDIENTS WITH VP'S LOW ENOUGH TO BE EMITTED IF HEATED ALONE. WHEN 2 PART RESINS AND HARDENERS ARE PROPERLY MIXED TOGETHER THESE INGREDIENTS REACT TOGETHER AND ARE CONSUMED WITHOUT SIGNIFICANT ATMOSPHERIC EMISSIONS.

### F. INTERNATIONAL CHEMICAL INVENTORY STATUS:

| | |
|---|---|
| EINECS-EU | Listed, Exempted, Polymer substance, or as no longer polymer. |
| AICS-AUSTRALIA | All components are listed or exempted. |
| ENCS-JAPAN | All components are listed or exempted. |
| ISHL-JAPAN | All components are listed or exempted. |
| KECI/ECL-KOREA | All components are listed or exempted. |
| IECSC/SEPA-CHINA | All components are listed or exempted. |
| PICCS-PHILIPPINES | All components are listed or exempted. |
| DSL-CANADA | All components are listed or exempted. |
| TSCA-USA | All components are listed or exempted. |



### G. WHMIS (CANADA):

- WHMIS: D2B Materials Causing Other Toxic Effects –Toxic Material
- WHMIS: E — Corrosive Material

## SECTION 16 — OTHER INFORMATION

| HMIS III CODES: | | RATINGS: | |
|---|---|---|---|
| HEALTH | = **3** | 0 = MINIMAL | 3 = SERIOUS |
| FLAMMABILITY | = **1** | 1 = SLIGHT | 4 = SEVERE |
| REACTIVITY | = **0** | 2 = MODERATE | |

⇒ PERSONAL PROTECTION RATING TO BE SUPPLIED BY USER DEPENDING ON CONDITIONS OF USE.

DATE OF PREPARATION: 5/8/2015 SUPERSEDES: 5/19/2014

We believe that the information contained herein is correct as of the date of this Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of this product are not within the control of PTM & W, it is the user's obligation to determine the conditions of safe use of the product.

PTM & W makes no warranty, expressed or implied regarding the accuracy of these data. PTM & W assumes no responsibility for injury from the use of the product described herein. Further, there are many international, federal, state, and local laws and regulations governing chemical products and as it is beyond the scope of this SDS to determine which of these apply, it is the responsibility of the user to determine how these affect their use of the product.

PTM&W assumes no obligation or liability for the information given, or results obtained, all such being given and accepted at users' risk.

Alteration of this document is strictly prohibited.

— END OF SDS —

# MATERIAL SAFETY DATA SHEET

# TEFLON-PTFE

| | |
|---|---|
| EFFECTIVE DATE | September 9, 1996 |
| REVISED DATE | April 14, 2011 |
| TRADE NAME | Teflon |
| CHEMICAL FAMILY | PTFE |
| CHEMICAL FORMUA | Polytetrafluoroethylene |
| | |
| **SECTION II - HAZARDOUS INGREDIENTS** | |
| HAZARDOUS COMPONENTS | |
| | |
| | |
| | |
| | |
| | |
| **SECTION III - PHYSICAL DATA** | |
| BOILING POINT (F) | N/A |
| FREEZING POINT (F) | |
| VOLATILITY / VOLUME (%) | N/A |
| MELTING POINT | |
| VAPOR PRESSURE (mmHg) | N/A |
| VAPOR DENSITY (Air=1) | N/A |
| SOLUBILITY IN H20 | Insoluble |
| APPEARANCE / ODOR | White and odorless |
| SPECIFIC GRAVITY (H20=1) | 2.18 |
| ACIDITY | |
| | |
| **SECTION IV- FIRE AND EXPLOSION HAZARD DATA** | |
| FLASH POINT | N/A |
| LOWER FLAME POINT | |
| HIGHER FLAME POINT | |
| EXTINGUISH MEDIA | Carbon Dioxide, Dry Chemical or Water |
| FOR FIRE | Self-contained apparatus to protect against decomposition products above 500°F |
| | |
| UNUSUAL FIRE HAZARD | PTFE will burn when ignited in 100% oxygen |
| | |
| **SECTION V- HEALTH HAZARD DATA** | |
| HEALTH HAZARD | |
| | |
| | |
| THRESHOLD LIMIT VALUE | |
| OVER EXPOSURE EFFECTS | Excessive fume inhalation has caused tempory symptoms similar to Grippe |
| | |
| | |
| **SECTION VI - REACTIVITY DATA** | |
| CHEMICAL STABILITY | Stable |
| CONDITIONS TO AVOID | Temperatures above 500°F without adequate ventilation |

PPC
Polymer Plastics Company, LC

550 Mallory Way • Carson City, NV 89701
(775) 283-4400 • (800) 475-2214
www.polymerplastics.com

# MATERIAL SAFETY DATA SHEET

# TEFLON-PTFE

| | |
|---|---|
| **SECTION VI - REACTIVITY DATA** - CONTINUED | |
| INCOMPATIBLE MATERIALS | Molten Alkali Metals, Interhalogen Compounds |
| DECOMPOSITION PRODUCTS | |
| | |
| | |
| HAZARDOUS POLYMERIZATIONS | Will not occur |
| POLYMERIZATION AVOID | |
| **SECTION VII - SPILL OR LEAK PROCEDURE** | |
| FOR SPILL | Sweep up and place in container |
| WASTE DISPOSAL METHOD | Reclaim Product. Landfill |
| | |
| **SPECIAL VIII - SPECIAL PROTECTION** | |
| RESPIRATORY PROTECTION | Not required |
| | |
| VENTILATION | Local Exhaust when heated above 500°F |
| | |
| | |
| PROTECTIVE GLOVES | |
| | |
| EYE PROTECTION | |
| | |
| OTHER PROTECTIVE EQUIPMENT | |
| HANDLING AND STORAGE | Normal handling for plastics |
| | |
| **SECTION IX - SPECIAL PRECAUTIONS** | |
| HAZARD CLASS | |
| DOT SHIPPING NAME | |
| REPORTABLE QUANITY (RQ) | |
| UN NUMBER NA# | |
| NA# | |
| PACKAGING SIZE | |

**Notes:**

All information recommendations and suggestions appearing herein concerning this product are based upon data obtained from the manufacturer and/or recognized technical sources. It is the user's responsibility to determine the Safety, Toxicity and suitability of his/her own use, handling and disposal request. Since actual use by others is beyond our control, no warranty, expresses or implied, is made by Polymer Plastics Company L.C. as to effects of such use. The results to be obtained or the safety and toxicity of the product,, nor does Polymer Plastics Company L.C. assume any liability arising out of use by others of the product referred to herein. The data in this MSDS relate only to the specific material designated herein and do not relate to use in combination with any other material or in any other process.

**REFERENCES:** N/A = Not Applicable, N/D = Not Determined, N.D.A. = No Date Available

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550 Mallory Way • Carson City, NV 89701
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www.polymerplastics.com

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **Oatey Purple Primer- NSF Listed for PVC and CPVC**

**Other means of identification**

**Product code** 1402E

**Synonyms** Part Numbers: 30755(TV), 30756(TV), 30757(TV), 30758, 30759, 30927

**Recommended use** Joining PVC Pipes

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** Oatey Co.

**Address** 4700 West 160th St.
Cleveland, OH 44135

**Telephone** 216-267-7100

**E-mail** info@oatey.com

**Transport Emergency** Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

**Emergency First Aid** 1-877-740-5015

**Contact person** MSDS Coordinator

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Flammable liquids | Category 2 |
| **Health hazards** | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2A |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Aspiration hazard | Category 1 |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Danger

**Hazard statement** Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statement**

**Prevention** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

| | |
|---|---|
| **Storage** | Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. |
| **Disposal** | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| **Hazard(s) not otherwise classified (HNOC)** | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen. |

**Supplemental information**

Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| Acetone | 67-64-1 | 25-40 |
| Cyclohexanone | 108-94-1 | 25-40 |
| Furan, Tetrahydro- | 109-99-9 | 15-30 |
| Methyl ethyl ketone | 78-93-3 | 15-30 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

| | |
|---|---|
| **Inhalation** | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| **Skin contact** | Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. |
| **Eye contact** | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| **Ingestion** | Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis. |
| **Most important symptoms/effects, acute and delayed** | Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain. |
| **Indication of immediate medical attention and special treatment needed** | Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |
| **General information** | Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2). |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Specific hazards arising from the chemical** | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. |
| **Special protective equipment and precautions for firefighters** | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| **Fire fighting equipment/instructions** | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. |
| **Specific methods** | Use standard firefighting procedures and consider the hazards of other involved materials. |
| **General fire hazards** | Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age. |

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 |
| | | 1000 ppm |
| Cyclohexanone (CAS 108-94-1) | PEL | 200 mg/m3 |
| | | 50 ppm |
| Furan, Tetrahydro- (CAS 109-99-9) | PEL | 590 mg/m3 |
| | | 200 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | PEL | 590 mg/m3 |
| | | 200 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | STEL | 750 ppm |
| | TWA | 500 ppm |
| Cyclohexanone (CAS 108-94-1) | STEL | 50 ppm |
| | TWA | 20 ppm |
| Furan, Tetrahydro- (CAS 109-99-9) | STEL | 100 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| | TWA | 50 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 300 ppm |
| | TWA | 200 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 |
| | | 250 ppm |
| Cyclohexanone (CAS 108-94-1) | TWA | 100 mg/m3 |
| | | 25 ppm |
| Furan, Tetrahydro- (CAS 109-99-9) | STEL | 735 mg/m3 |
| | | 250 ppm |
| | TWA | 590 mg/m3 |
| | | 200 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 885 mg/m3 |
| | | 300 ppm |
| | TWA | 590 mg/m3 |
| | | 200 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |
| Cyclohexanone (CAS 108-94-1) | 80 mg/l | 1,2-Cyclohexanediol, with hydrolysis | Urine | * |
| | 8 mg/l | Cyclohexanol, with hydrolysis | Urine | * |
| Furan, Tetrahydro- (CAS 109-99-9) | 2 mg/l | Tetrahydrofuran | Urine | * |
| Methyl ethyl ketone (CAS 78-93-3) | 2 mg/l | MEK | Urine | * |

* - For sampling details, please see the source document.

**Exposure guidelines**

**US - California OELs: Skin designation**

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

Cyclohexanone (CAS 108-94-1) Skin designation applies.

**US - Tennessee OELs: Skin designation**

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Face shield is recommended. Wear safety glasses with side shields (or goggles).

| | |
|---|---|
| **Skin protection** | |
| **Hand protection** | Wear appropriate chemical resistant gloves. |
| **Other** | Wear appropriate chemical resistant clothing. |
| **Respiratory protection** | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. |
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **General hygiene considerations** | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Liquid. |
| **Form** | Translucent liquid. |
| **Color** | Purple |
| **Odor** | Solvent. |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | 151 °F (66.11 °C) |
| **Flash point** | 14.0 - 23.0 °F (-10.0 - -5.0 °C) |
| **Evaporation rate** | 5.5 - 8 |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | 1.8 |
| **Flammability limit - upper (%)** | 11.8 |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | 145 mm Hg @ 20 C |
| **Vapor density** | 2.5 |
| **Relative density** | 0.84 +/- 0.02 @20°C |
| **Solubility(ies)** | |
| **Solubility (water)** | Negligible |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Other information** | |
| **Bulk density** | 7 lb/gal |
| **VOC (Weight %)** | 505 g/l SQACMD Method 24 |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics. |

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

**Information on likely routes of exposure**

**Inhalation** May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.

**Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye irritation.

**Ingestion** May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**Information on toxicological effects**

**Acute toxicity** May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

| Components | Species | Test Results |
|---|---|---|
| Acetone (CAS 67-64-1) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 20 ml/kg |
| *Inhalation* | | |
| LC50 | Rat | 50 mg/l, 8 Hours |
| *Oral* | | |
| LD50 | Rat | 5800 mg/kg |
| Cyclohexanone (CAS 108-94-1) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 948 mg/kg |
| *Inhalation* | | |
| LC50 | Rat | 8000 ppm, 4 hours |
| *Oral* | | |
| LD50 | Rat | 1540 mg/kg |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| Acetone (CAS 67-64-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |
| Cyclohexanone (CAS 108-94-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 481 - 578 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | -0.24 |
| Cyclohexanone (CAS 108-94-1) | 0.81 |
| Furan, Tetrahydro- (CAS 109-99-9) | 0.46 |
| Methyl ethyl ketone (CAS 78-93-3) | 0.29 |

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

**UN number** UN1993

**UN proper shipping name** Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 26274 LBS, Acetone RQ = 13130 LBS)

**Transport hazard class(es)**

**Class** 3

**Subsidiary risk** -

**Label(s)** 3

**Packing group** II

| | |
|---|---|
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Special provisions** | IB2, T7, TP1, TP8, TP28 |
| **Packaging exceptions** | 150 |
| **Packaging non bulk** | 202 |
| **Packaging bulk** | 242 |

**IATA**

| | |
|---|---|
| **UN number** | UN1993 |
| **UN proper shipping name** | Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone) |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | - |
| **Packing group** | II |
| **Environmental hazards** | No. |
| **ERG Code** | 3H |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1993 |
| **UN proper shipping name** | FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone) |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | - |
| **Packing group** | II |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-E, S-E |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | LISTED |
| Cyclohexanone (CAS 108-94-1) | LISTED |
| Furan, Tetrahydro- (CAS 109-99-9) | LISTED |
| Methyl ethyl ketone (CAS 78-93-3) | LISTED |

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |
| Methyl ethyl ketone (CAS 78-93-3) | 6714 |

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 35 %WV |
| Methyl ethyl ketone (CAS 78-93-3) | 35 %WV |

**DEA Exempt Chemical Mixtures Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |
| Methyl ethyl ketone (CAS 78-93-3) | 6714 |

**US state regulations**

**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

**US. New Jersey Worker and Community Right-to-Know Act**

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

**US. Rhode Island RTK**

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Canada | Domestic Substances List (DSL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

| | |
|---|---|
| **Issue date** | 27-May-2015 |
| **Revision date** | - |
| **Version #** | 01 |
| **HMIS® ratings** | Health: 2<br>Flammability: 3<br>Physical hazard: 0 |

**NFPA ratings**


**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

# World-Pak Division, Inteplast Group, Ltd.
# Material Safety Data Sheet

## MANUFACTURER

World-Pak Division, Inteplast Group, Ltd.
101 Inteplast Blvd., Highway 1593, Lolita, Texas 77971
Telephone: (361) 874-3760 Fax: (361) 874-3984

## MSDS No: WP-PVC Sheet

Preparation Date: 01/14/2005
Supersedes Date: 07/11/2000

Emergency: 800-424-9300 (CHEMTREC)

## 1. PRODUCT IDENTIFICATION

| | |
|---|---|
| **Product Name:** | PVC Sheet |
| **Product Code:** | InteDur, InteFoam, InteClear, InteCel, InteCel PW, Tuf Board |
| **Chemical Family:** | Polymer of Chlorinated Hydrocarbon |
| **Chemical Name:** | Polyvinyl Chloride |
| **CAS No:** | 9002-86-2 |
| **Synonyms:** | Rigid PVC Sheet (Type I and II), Expanded Foam PVC Sheet, Integral Skin Expanded Foam PVC Sheet, Clear PVC Sheet, Wood PVC sheet, Celuka PVC Sheet, Wood/PVC Composite Sheet |
| **Formula:** | Proprietary |
| **Technical Information:** | (361) 874-3760 |

## 2. PRODUCT INGREDIENTS

| No. | Components | CAS No. | Percent (%) | OSHA PEL |
|---|---|---|---|---|
| 1 | PVC | 9002-86-2 | 50 - 100% | 5 mg/$M^3$ (respirable dust) |
| 2 | Proprietary | Mixtures | 0 - 50% | Not established |

## 3. PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical Form:** | Solid Sheet |
| **Color:** | Finished sheet with colors specified |
| **Odor:** | Insignificant |
| **Boiling Point:** | Not applicable |
| **Melting Point:** | Not established |
| **Freezing Point:** | Not applicable |
| **Solubility in Water:** | None |
| **Specific Gravity:** | 0.4 - 2.0 (water = 1) |
| **Vapor Density:** | Not applicable (air = 1) |
| **Evaporation Rate:** | None (Butyl Acetate = 1) |
| **Vapor Pressure:** | Not applicable |
| **% Volatile:** | None |
| **pH:** | Not applicable |

The physical data presented above are typical values and should not be construed as a specification.

## 4. FIRE HAZARD DATA AND FIGHTING METHOD

**Flash Point:** Not applicable
**Autoignition:** Not applicable
**Flammable Limits**
**In Air (LEL, %)** Not applicable
**(UEL, %)** Not applicable
**Extinguishing Media:** Dry chemical, foam water, or carbon dioxide
**Special Fire Fighting Procedure:** In the event of a fire, wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Evacuate all personnel from danger area. Use dry chemical, foam, water or carbon dioxide to extinguish fire.

**Unusual Fire and Explosion Hazards:**
This product is nonflammable and nonexplosive under normal conditions of use. It will not continue to burn after ignition without an external fire source. When forced to burn, the major gaseous products of the combustion of PVC are carbon monoxide, carbon dioxide, and hydrogen chloride.

## 5. HUMAN HEALTH DATA

**Emergency Overview:** During a fire emergency, avoid inhalation, eye and skin contacts.
**Primary Route(s) of Exposure:** Inhalation, Eye, Skin Contact

**Potential Health Effects and Symptoms of Over-Exposure**
**Eye Contact:** Dust may cause eye irritation
**Skin Contact:** May cause skin irritation
**Inhalation:** May cause discomfort in nose and throat
**Ingestion:** Unlikely

**Medical Conditions Aggravated by Overexposure:**
Available toxicological information and the physical/chemical properties of the material suggest that there is no evidence that this product aggravates an existing medical condition.

**Carcinogenicity:** **NTP:** No **IARC:** No **OSHA:** No

## 6. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. Do not rub the eyes. If irritation develops, consult a physician.
**Skin Contact:** Wash affected skin areas with soap and water. If irritation develops, get medical attentions immediately
**Inhalation:** Remove subject to fresh air. If symptoms develop, seek immediate medical attention.
**Ingestion:** Unlikely.
**Notes to Physician:** Treat symptomatically and supportively.
**Other Instructions:** Never give anything by mouth to an unconscious person.

## 7. EXPOSURE CONTROLS, PERSONAL PROTECTION RECOMMENDATIONS

**Eye Protection:** Wear safety glasses during sheet cutting or fabricating process
**Skin Protection:** Wear gloves and long sleeved clothing when cutting or fabricating sheets.
**Respiratory Protection:** Use NIOSH/MAHA approved dust respirators as needed.
**Engineering Control:** Ventilation Requirements – Local Exhaust
**Required Work/Hygiene Procedure:** Do not eat, drink, or smoke in work area. Wash hands thoroughly after handling, especially before eating, drinking, smoking, chewing, or using restroom facility.

**Exposure Guidelines:**

| No. | Components | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| 1 | PVC | 5 mg/$M^3$ (as respirable dust) | 10 mg/$M^3$ (as nuisance dust) |

## 8. ACCIDENTAL RELEASE CONTROL MEASURES

**Response to Spills:** Not applicable

## 9. HANDLING AND STORAGE

**Handling:** Use with care. Wear gloves if necessary when cutting or fabricating sheet.
**Storage:** Store in a cool dry, well-ventilated area away from sources of extreme heat or fire.
**Container Use:** Not applicable

## 10. STABILITY AND REACTIVITY

**Stability:** Stable
**Conditions to Avoid:** Avoid fire or elevated temperature above 250$^{o}$C.
**Hazardous Decomposition:** If burned, it will generate carbon dioxide, carbon monoxide and hydrogen chloride.
**Hazardous Polymerization:** Will not occur

## 11. DISPOSAL CONSIDERATIONS

**Disposal Method:** It must be disposed of in accordance with Federal, State and local environmental control regulations.
**Recycle/Reclaim:** Recycling of PVC sheet should be encouraged where possible.

## 12. TRANSPORT INFORMATION

**DOT Shipping Name:** Not listed
**DOT Label:** Not applicable
**DOT Hazard Class:** Not regulated
**UN/NA Number:** Not applicable
**Hazard Label(s):** Not applicable
**Hazard Placard(s):** Not applicable
**Packing Group:** Not applicable
**Bulk Packaging:** Not applicable
**RQ:** Not applicable
**Emergency Response Guide (ERG) No.:** Not applicable

## 13. TOXICOLOGICAL INFORMATION

The information provided below can be subject to misinterpretation. Therefore, it is essential that the following information be interpreted by individuals trained in its evaluation.

| Chemical | Toxicity Data |
|---|---|
| PVC | orl-rat TDLo: 210 g/kg/30W-C:ETA |

## 14. ECOLOGICAL INFORMATION

No data is available on the adverse effects of this product on the environment. Neither COD nor BOD data are available.

## 15. REGULATORY INFORMATION

**FEDERAL REGULATORY INFORMATION**

**OSHA Status:** Not listed
**EPA Clean Air Act Status:** Not listed
**EPA Clean Water Act Status:** Not listed
**TSCA Status:** PVC is listed on TSCA Inventory (40 CFR710)
**CERCLA RQ:** Not listed

**SARA Title III**
PVC

| Section 302* | Section 313** | Section 311/312*** |
|---|---|---|
| None | None | None |

*Reportable quantity of extremely hazardous substance, Sec. 302
*Threshold planning quantity, extremely hazardous substance, Sec. 302
**Toxic chemical. Sec. 313
**Category as required by Sec 313 (40CFR372.65C). Must be used on Toxic Release Inventory form.
***Hazard category for SARA Sec.311/312 reporting H1=acute health hazard, H2=chronic health hazard, P3=fire hazard, P4=sudden release of pressure hazard, P5=reactive hazard

**RCRA Status:** The product is not an RCRA hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40CFR261.20-24).

**OTHER REGULATORY INFORMATION**

The following chemicals are specifically listed by individual states; other product-specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

| State | Chemical | Regulation |
|---|---|---|
| Texas | PVC | Effects Screening Level (ESL) List: short term 50 ug/$M^3$; long term 5 ug/$M^3$ |
| California | | Proposition 65: warning – this product contains a chemical, residual VCM, known to the state of California to cause cancer |

**Product Name: PVC Sheet**

**International**

United Kingdom Occupational Exposure Standards: TWAs total inhalable dust 10 mg/$M^3$ TWA; Respirable dust 5mg/$M^3$

Germany MAK Value: fine dusts 5 mg/$M^3$ MAK

## 16. OTHER INFORMATION

| **NFPA** | **HMIS** |
|---|---|
| Fire – 1 | Health - 0 |
| Health – 0 | Flammability - 1 |
| Reactivity – 0 | Reactivity - 0 |
| Specific Hazard – None | Personal Protection Index - E |

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of World-Pak Division, Inteplast Group, Ltd. Neither World-Pak Division, Inteplast Group, Ltd. nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards, which exist. World-Pak Division, Inteplast Group, Ltd. assumes no legal responsibility for loss, damage or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.

# M A T E R I A L  S A F E T Y  D A T A  S H E E T

**PRODUCT NAME: QUICK SET REDUCER** **HMIS CODES: H F R P**
**PRODUCT CODE: 80** **2*3 0**

## ========== SECTION I - MANUFACTURER IDENTIFICATION ==========

**MANUFACTURER'S NAME: ELLIS PAINT CO.**
**ADDRESS : 3150 E. PICO BOULEVARD**
**LOS ANGELES, CA 90023-3683**
**EMERGENCY PHONE(CHEMTREC) : (800) 424-9300**
**INFORMATION PHONE : (323) 261-8114**
**DATE PRINTED : 5/27/2008**
**NAME OF PREPARER :**

## ========== SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION ==========

| REPORTABLE COMPONENTS | CAS NUMBER | VAPOR PRESSURE mmHG | @TEMP(F) |
|---|---|---|---|
| ~ SOLVENT NAPHTHA (PETROLEUM),LT. ALIPHATIC | 64742-89-8 | 41.4 | 68 |
| OSHA PEL: 400 ppm, ACGIH TLV: 400 ppm | | | |
| VM&P NAPHTHA | 8032-32-4 | 9.8 | 68 |
| OSHA PEL: 300 ppm, ACGIH TLV: 300 ppm | | | |
| ~ TOLUENE | 108-88-3 | 21.8 | 68 |
| OSHA PEL: 200 ppm, ACGIH TLV: 100 ppm | | | |
| ACETONE | 67-64-1 | 185.5 | 68 |
| OSHA PEL: 1000 ppm; 2,400 mg/m3 | | | |
| OSHA TWA: 750 ppm; 1,800 mg/m3 | | | |
| OSHA STEL: 1000 ppm; 2,400 mg/m3 | | | |
| ACGIH TWA: 500 ppm, STEL: 750 ppm | | | |

**~Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.**

## ========== SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS ==========

**BOILING RANGE (Deg F): 133 - 260** **DENSITY: 6.43 lb/gl**
**VAPOR DENSITY: HEAVIER THAN AIR** **SPECIFIC GRAVITY (H2O=1): .77**
**MATERIAL V.O.C.: 5.63 lb/gl** **MATERIAL V.O.C.: 675 g/l**
**SOLUBILITY IN WATER:** **EVAPORATION RATE: SLOWER THAN ETHER**
**V.O.C. COMPOSITE VAPOR PRESSURE: 22.2 mmHg @ 68 Deg F**
**APPEARANCE AND ODOR: Water-white liquid with mild odor.**

## ========== SECTION IV - FIRE AND EXPLOSION HAZARD DATA ==========

**FLASH POINT(Deg F): 1** **METHOD USED: TOC**
**FLAMMABLE LIMITS IN AIR BY % VOLUME- LOWER: 1** **UPPER: 12.8**

**EXTINGUISHING MEDIA: ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG**

**SPECIAL FIREFIGHTING PROCEDURES**

**UNUSUAL FIRE AND EXPLOSION HAZARDS**
**Fire-exposed containers should be cooled with water to prevent pressure build-up**

which could result in container rupture.

========== SECTION V - REACTIVITY DATA ==========

STABILITY: STABLE

CONDITIONS TO AVOID
Avoid heat, sparks and open flame

INCOMPATIBILITY (MATERIALS TO AVOID)
Strong oxidizing agents

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
Thermal decomposition may yield carbon dioxide and/or carbon monoxide.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

========== SECTION VI - HEALTH HAZARD DATA ==========

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Inhalation: May cause CNS depression.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Skin and eye contact: May cause irritation to both.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Skin absorption: May cause irritation.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Ingestion: May cause CNS depression.

HEALTH HAZARDS (ACUTE AND CHRONIC)
Acute: May cause irritation to nose, eyes and skin. May also cause CNS (central nervous system) depression which may be evidenced by giddiness, headache, dizziness and nausea; in extreme cases, unconsciousness and death may occur.
Chronic: Prolonged or repeated contact may result in dermatitis and damage to central nervous system, liver and kidneys.

CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: No OSHA REGULATED: No

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
Pre-existing eye, skin and respiratory disorders may be aggravated.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. SPLASH (EYES): FLUSH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. SPLASH (SKIN): WASH AFFECTED AREAS WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. INGESTION: DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE

LUNGS. GET MEDICAL ATTENTION IMMEDIATELY.

========== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE ==========

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

REMOVE ALL SOURCES OF IGNITION AND PROVIDE VENTILATION. LARGE SPILLS MAY BE PUMPED TO SALVAGE VESSELS. SMALL SPILLS MAY BE PICKED UP WITH AN ABSORBENT MATERIAL.

WASTE DISPOSAL METHOD
Place in tightly closed containers and dispose of in accordance with local, state and federal regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep away from heat, sparks and open flames. Keep containers closed when not in use. Use with adequate ventilation.

OTHER PRECAUTIONS
Do not take internally. Ground equipment to prevent accumulation of static charge. Do not cut, weld, drill or grind on or near containers.

========== SECTION VIII - CONTROL MEASURES ==========

RESPIRATORY PROTECTION
Use self-contained breathing apparatus where vapor concentration may be above TLV limits. Where vapor does not exceed TLV limits, use NIOSH/MSHA approved respirator.

VENTILATION
Use explosion-proof ventilation as required to control vapor concentrations.

PROTECTIVE GLOVES
Chemical resistant gloves

EYE PROTECTION
Safety glasses, splash goggles or face shield . Contact lenses should not be worn.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT
Safety showers and eyewash stations should be provided.

WORK/HYGIENIC PRACTICES
Wash hands thoroughly before eating or using the washroom. Smoke in smoking areas only.

========== SECTION IX - REGULATORY INFORMATION ==========

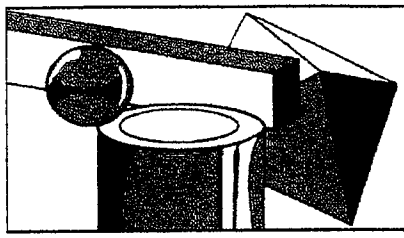
CALIFORNIA PROPOSITION 65

**This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.**

**Contains: Toluene -**

## ========== SECTION X - DISCLAIMER ==========

**The information contained herein is based on the data available to us and is believed to be correct. However, Ellis Paint Co. makes no warranty expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ellis Paint Co. assumes no responsibility for injury from the use of the product described herein.**



GOLDENWEST MFG., INC.
PO BOX 1148
CEDAR RIDGE, CA 95924 USA
530-272-1133 FAX 530-272-1070

# MATERIAL SAFETY DATA SHEET
## 891B, 709B

EMERGENCY TELEPHONE NUMBER: 800-424-9300 DATE: 10/93 (Rev. 2/01) NAME: **R1 FAST CAST® 891B, 709B**

**I. PRODUCT IDENTIFICATION**
CHEMICAL TYPE: Extended Polyether Polyol.

HEALTH: 2 FLAMMABILITY: 0
REACTIVITY: 1 BIODEGRADABILITY: 1

**II. INGREDIENTS**

| | | % | TLV (ACGIH) |
|---|---|---|---|
| Polyether Polyol | (CAS Unassigned) | 42 - 46 | Not established |
| High Molecular Weight Plasticizer | (CAS 6846-50-0) | 53 - 58 | Not established |

**III. PHYSICAL DATA**
APPEARANCE & ODOR: White liquid, slightly fruity odor. BOILING POINT: 536 °F. SPECIFIC GRAVITY: .98 @ 20°C. (68° F.) VAPOR PRESSURE: 4 mm Hg @ 121° C. SOLUBILITY IN WATER: Partial.

**IV. FIRE & EXPLOSION DATA**
FLASH POINT: 262° F. Pensky-Martens Closed Cup. EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, high expansion (proteinic) chemical foam. SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. UNUSUAL FIRE OR EXPLOSION HAZARDS: Combustible liquid. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

**V. REACTIVITY DATA**
STABILITY: Stable. INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizing agents and isocyanates. HAZARDOUS POLYMERIZATION: Will not occur. HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: carbon monoxide,

**VI. HEALTH HAZARD DATA**
GENERAL: No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on the properties of its components. PRIMARY ROUTES OF ENTRY: Skin, inhalation. INHALATION: Low hazard for usual industrial handling. SKIN CONTACT: Low hazard for usual industrial handling. EYE CONTACT: Liquid is minimally irritating to the eyes. INGESTION: Ingestion may result in gastric upset. CARCINOGENICITY: None of the ingredients are listed by NTP, IARC, or regulated by OSHA as carcinogen. **FIRST AID PROCEDURES**: SKIN: Wash material off skin with plenty of soap and water. Seek medical attention if irritation develops or persists after the area is washed. Do not reuse clothing until cleaned. EYES: Flush with copious amounts of water for at least 15 minutes holding eyelids open. Refer individual to medical attention for immediate follow-up. INGESTION: If ingested, consult physician. INHALATION: Move to area free of risk to further exposure. Administer oxygen or artificial respiration as needed. Get medical attention.

**VII. SPILL OR LEAK PROCEDURES**
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all possible ignition sources. MAJOR SPILL: Large quantities may be pumped into storage/salvage vessels. MINOR SPILL: Absorb material with sawdust or other absorbent. Shovel into suitable containers for proper disposal. CLEANUP: Flush area with water to remove trace residue. WASTE DISPOSAL METHOD: Waste must be disposed of according to federal, state and local environmental control regulations. Decontaminate containers prior to disposal. Empty containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

(MSDS891B)

**VIII. SPECIAL PROTECTION INFORMATION**

TLV OR SUGGESTED CONTROL VALUE: No ACGIH TLV or OSHA PEL is assigned to this mixture. Minimize exposure in accordance with good hygiene practice. EYE PROTECTION: Liquid chemical goggles or full face shield. SKIN PROTECTION: Chemical resistant gloves recommended. RESPIRATORY PROTECTION: If respiratory protection is needed, use MSHA/NIOSH approved respirator for organic vapor. VENTILATION: Local exhaust should be sufficient to control airborne levels. OTHER PROTECTIVE EQUIPMENT: None

**IX. SPECIAL PRECAUTIONS**

Store in tightly sealed containers to protect from atmospheric moisture. Educate and train employees in safe use of product.

**X. REGULATORY INFORMATION**

TSCA (Toxic Substances Control Act ) Regulations, 40 CFR 710: All ingredients are on the TSCA Section 8 (B) Inventory. CERCLA and SARA Regulations (40 CFR 355, 370 and 372): Section 313 Supplier Notification: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372: None. STATE REGULATIONS: CALIFORNIA PROPOSITION 65: No warnings are necessary.

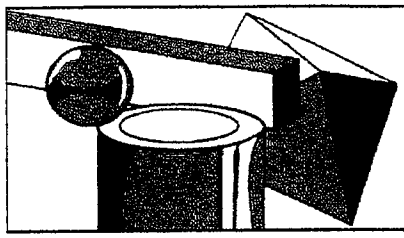
**IMPORTANT:** The following supersedes any provision in your company's forms, letters, and papers. GOLDENWEST MFG., INC. makes no warranty, whether expressed or implied, including warranties of merchantability, or of fitness for a particular purpose for this product. No statement or recommendations contained in the product literature or suggested verbally, are to be construed as inducements to infringe any relevant patent now or hereafter in existence. Under no circumstances shall GOLDENWEST MFG., INC. be liable for incidental, consequential or other damages from alleged negligence, breach of warranty, strict liability or any other theory, arising out of the use or handling of this product. The sole liability of GOLDENWEST MFG., INC. for any claims arising out of the manufacture, use or sale of its products shall be for the buyer's purchase price. Should GOLDENWEST MFG., INC., find out any information that materially affects the information included in this MSDS, it will publish notification about the new data.

NOTE: FOR ADDITIONAL INFORMATION ON THIS **MSDS**, REFER TO THE **MSDS** FOR R1 FAST CAST® 891A, 709A

**NOT PART OF THE MSDS:**

Reference to Section **VII. SPILL OR LEAK PROCEDURES:** Another method widely used to dispose of spilled resin is to measure the amount of spilled resin and mix with the proper amount of the other side (A or B) in a bucket. Let the material harden into a solid block for easy, safer disposal as a solid. NOTE: If the resin has picked up water or a lot of moisture during the spill, the water will react when the resins "A" and "B" are mixed together as a "blowing" agent. In other words, the material will expand in volume depending on how much moisture has been added.


(MSDS 891-709 B)



GOLDENWEST MFG., INC.
PO BOX 1148
CEDAR RIDGE, CA 95924 USA
530-272-1133 FAX 530-272-1070

# MATERIAL SAFETY DATA SHEET
## 891B, 709B

EMERGENCY TELEPHONE NUMBER: 800-424-9300 DATE: 10/93 (Rev. 2/01) NAME: **R1 FAST CAST® 891B, 709B**

**I. PRODUCT IDENTIFICATION**
CHEMICAL TYPE: Extended Polyether Polyol.

HEALTH: 2 FLAMMABILITY: 0
REACTIVITY: 1 BIODEGRADABILITY: 1

**II. INGREDIENTS**

| | | % | TLV (ACGIH) |
|---|---|---|---|
| Polyether Polyol | (CAS Unassigned) | 42 - 46 | Not established |
| High Molecular Weight Plasticizer | (CAS 6846-50-0) | 53 - 58 | Not established |

**III. PHYSICAL DATA**
APPEARANCE & ODOR: White liquid, slightly fruity odor. BOILING POINT: 536 °F. SPECIFIC GRAVITY: .98 @ 20°C. (68° F.) VAPOR PRESSURE: 4 mm Hg @ 121° C. SOLUBILITY IN WATER: Partial.

**IV. FIRE & EXPLOSION DATA**
FLASH POINT: 262° F. Pensky-Martens Closed Cup. EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, high expansion (proteinic) chemical foam. SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. UNUSUAL FIRE OR EXPLOSION HAZARDS: Combustible liquid. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

**V. REACTIVITY DATA**
STABILITY: Stable. INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizing agents and isocyanates. HAZARDOUS POLYMERIZATION: Will not occur. HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: carbon monoxide,

**VI. HEALTH HAZARD DATA**
GENERAL: No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on the properties of its components. PRIMARY ROUTES OF ENTRY: Skin, inhalation. INHALATION: Low hazard for usual industrial handling. SKIN CONTACT: Low hazard for usual industrial handling. EYE CONTACT: Liquid is minimally irritating to the eyes. INGESTION: Ingestion may result in gastric upset. CARCINOGENICITY: None of the ingredients are listed by NTP, IARC, or regulated by OSHA as carcinogen. **FIRST AID PROCEDURES**: SKIN: Wash material off skin with plenty of soap and water. Seek medical attention if irritation develops or persists after the area is washed. Do not reuse clothing until cleaned. EYES: Flush with copious amounts of water for at least 15 minutes holding eyelids open. Refer individual to medical attention for immediate follow-up. INGESTION: If ingested, consult physician. INHALATION: Move to area free of risk to further exposure. Administer oxygen or artificial respiration as needed. Get medical attention.

**VII. SPILL OR LEAK PROCEDURES**
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all possible ignition sources. MAJOR SPILL: Large quantities may be pumped into storage/salvage vessels. MINOR SPILL: Absorb material with sawdust or other absorbent. Shovel into suitable containers for proper disposal. CLEANUP: Flush area with water to remove trace residue. WASTE DISPOSAL METHOD: Waste must be disposed of according to federal, state and local environmental control regulations. Decontaminate containers prior to disposal. Empty containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

(MSDS891B)

**VIII. SPECIAL PROTECTION INFORMATION**

TLV OR SUGGESTED CONTROL VALUE: No ACGIH TLV or OSHA PEL is assigned to this mixture. Minimize exposure in accordance with good hygiene practice. EYE PROTECTION: Liquid chemical goggles or full face shield. SKIN PROTECTION: Chemical resistant gloves recommended. RESPIRATORY PROTECTION: If respiratory protection is needed, use MSHA/NIOSH approved respirator for organic vapor. VENTILATION: Local exhaust should be sufficient to control airborne levels. OTHER PROTECTIVE EQUIPMENT: None

**IX. SPECIAL PRECAUTIONS**

Store in tightly sealed containers to protect from atmospheric moisture. Educate and train employees in safe use of product.

**X. REGULATORY INFORMATION**

TSCA (Toxic Substances Control Act ) Regulations, 40 CFR 710: All ingredients are on the TSCA Section 8 (B) Inventory. CERCLA and SARA Regulations (40 CFR 355, 370 and 372): Section 313 Supplier Notification: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372: None. STATE REGULATIONS: CALIFORNIA PROPOSITION 65: No warnings are necessary.

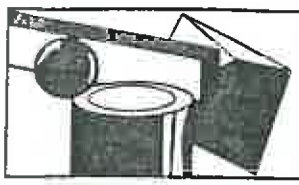
**IMPORTANT:** The following supersedes any provision in your company's forms, letters, and papers. GOLDENWEST MFG., INC. makes no warranty, whether expressed or implied, including warranties of merchantability, or of fitness for a particular purpose for this product. No statement or recommendations contained in the product literature or suggested verbally, are to be construed as inducements to infringe any relevant patent now or hereafter in existence. Under no circumstances shall GOLDENWEST MFG., INC. be liable for incidental, consequential or other damages from alleged negligence, breach of warranty, strict liability or any other theory, arising out of the use or handling of this product. The sole liability of GOLDENWEST MFG., INC. for any claims arising out of the manufacture, use or sale of its products shall be for the buyer's purchase price. Should GOLDENWEST MFG., INC., find out any information that materially affects the information included in this MSDS, it will publish notification about the new data.

NOTE: FOR ADDITIONAL INFORMATION ON THIS **MSDS**, REFER TO THE **MSDS** FOR R1 FAST CAST® 891A, 709A

**NOT PART OF THE MSDS:**

Reference to Section **VII. SPILL OR LEAK PROCEDURES:** Another method widely used to dispose of spilled resin is to measure the amount of spilled resin and mix with the proper amount of the other side (A or B) in a bucket. Let the material harden into a solid block for easy, safer disposal as a solid. NOTE: If the resin has picked up water or a lot of moisture during the spill, the water will react when the resins "A" and "B" are mixed together as a "blowing" agent. In other words, the material will expand in volume depending on how much moisture has been added.


(MSDS 891-709 B)



GOLDENWEST MFG., INC.
PO BOX 1148
CEDAR RIDGE, CA 95924 USA
916 • 272 1133 FAX 916 • 272 1070

# MATERIAL SAFETY DATA SHEET
## 801B

EMERGENCY TELEPHONE NUMBER: 800-424-9300 DATE: 6/89 (Reviewed 1/94) REVISED: 11/94 NAME: R1 FAST CAST® 801B

HEALTH: 3
FLAMMABILITY: 1
REACTIVITY: 1
BIODEGRADABILITY: 1

**I. PRODUCT INFORMATION**
NAME: R1 FAST CAST® 801B CHEMICAL TYPE: Extended Polyurethane Isocyanate.

**II. INGREDIENTS**

| | | % | TLV (ACGIH) |
|---|---|---|---|
| Polyether Polyol | (CAS Unassigned) | 47 | Not established |
| Naphthalene | (CAS 91-20-3) | 4 | 10 ppm |
| Catalytic Reformer Petroleum Distillate | (CAS 68477-31-6) | 31 | Not established |

(Ingredients not precisely identified are proprietary)

**III. PHYSICAL DATA**
APPEARANCE & ODOR: Straw colored liquid with aromatic petroleum odor. BOILING POINT: 400°F. SPECIFIC GRAVITY: 1.097 AT 20°C. VAPOR PRESSURE: 1mm Hg at 20°C. SOLUBILITY IN WATER: Not soluble.

**IV. FIRE & EXPLOSION DATA**
FLASH POINT: Above 200°F. Tag Close Cup. EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, high expansion (proteinic) chemical foam, water spray for larger fires. SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. UNUSUAL FIRE OR EXPLOSION HAZARDS: Combustible liquid. Explosive rupture is possible. Therefore, use cold water to cool fire exposed containers.

**V. REACTIVITY DATA**
STABILITY: Stable under normal conditions. INCOMPATIBILITY (MATERIALS TO AVOID): Heat, flame and oxidizing agents. HAZARDOUS POLYMERIZATION: Will not occur. HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may release various hydrocarbons and hydrocarbon derivatives and toxic oxides of carbon and sulfur.

**VI. HEALTH HAZARD DATA**
GENERAL: No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on the properties of its components. PRIMARY ROUTES OF ENTRY: Skin; Inhalation INHALATION: ACUTE EXPOSURE: Mist or vapors may cause respiratory tract irritation, high levels may cause giddiness, headache, dizziness, nausea, vomiting, incoordination, and unconsciousness. CHRONIC EXPOSURE: Prolonged exposures to vapors may cause dizziness, weakness, weight loss, anemia, nervousness, pains in the limbs, peripheral numbness and paresthesias. Degenerative changes in the liver may occur after prolonged exposure to high concentrations. SKIN CONTACT: ACUTE EXPOSURE: Direct contact may cause extreme irritation with severe erythema and edema with blistering and open sores. Absorption of large amounts may result in narcosis. CHRONIC EXPOSURE: Repeated or prolonged exposure may cause irritation of hair follicles and blockage of sebaceous glands resulting in a rash of pimples and spots. EYE CONTACT: ACUTE EXPOSURE: May cause minor irritation. CHRONIC EXPOSURE: None found. INGESTION: ACUTE EXPOSURE: May cause nausea, vomiting, cramping, diarrhea and central nervous system depression ranging from mild headache to anesthesia, coma and death. Pulmonary irritation from exhaling solvent and delayed signs of liver and kidney damage may also occur. Aspiration may result in severe irritation with coughing, gagging, dyspnea, substernal distress rapidly developing pulmonary edema and, later, chemical pneumotitis and bronchopneumonia. CHRONIC EXPOSURE: None found. CARCINOGENICITY: None of the ingredients are listed by NTP, IARC, or regulated by OSHA as a carcinogen. Epidemiological studies involving petroleum refinery workers indicate persons with routine exposure to petroleum or one of its constituents may be at an increased risk to the development of benign neoplasms, digestive system cancers, and skin cancer, particularly melanoma. FIRST AID PROCEDURES: SKIN: Wash material off skin with plenty of soap and water. Seek medical attention if irritation develops or persists after the area is washed. Do not reuse clothing until cleaned. EYES: Flush with copious amounts of water for at least 15 minutes holding eyelids open. Refer individual to medical attention for immediate follow-up. INGESTION: DO NOT INDUCE VOMITING. Give 1 (one) or 2 (two) cups of water to drink. Do not give anything by mouth to an unconscious person. Get medical attention. INHALATION: Move to area free of risk to further exposure. Administer oxygen or artificial respiration as needed. Get medical attention.

VII. **SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all possible ignition sources. Evacuate and ventilate spill area; dike spill to prevent entry into water system. MAJOR SPILL: Large quantities may be pumped into closed, but not sealed container for disposal. MINOR SPILL: Absorb material with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside). CLEAN-UP: Flush area with water to remove trace residue. WASTE DISPOSAL METHOD: Waste must be disposed of according to federal, state and local environmental control regulations. Decontaminate containers prior to disposal. Empty containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH. Vapors and gases may be toxic.

VIII. **SPECIAL PROTECTION INFORMATION**

TLV OR SUGGESTED CONTROL VALUE: No ACGIH TLV or OSHA PEL is assigned to this mixture. Minimize exposure in accordance with good hygiene practice. The ACGIH TLV for Naphthalene is 10 ppm TWA; 15 ppm STEL. OSHA PEL is 10 ppm. EYE PROTECTION: Liquid chemical goggles or full face shield. SKIN PROTECTION: Chemical resistant gloves recommended. RESPIRATORY PROTECTION: Because of low vapor pressure, ventilation is usually sufficient to keep vapors below the TLV at room temperatures. If concentrations exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator to prevent overexposure. VENTILATION: Local exhaust should be used to keep airborne concentrations below the TLV. OTHER PROTECTIVE EQUIPMENT: None

IX. **SPECIAL PRECAUTIONS**

Store in tightly sealed containers to protect from atmospheric moisture. Educate and train emplo yees in safe use of product.

X. **REGULATORY INFORMATION**

TSCA (Toxic Substances Control Act) REGULATIONS, 40 CFR 710: All ingredients are on the TSCA Section 8 (b) Inventory. CERCLA and SARA REGULATIONS (40 CFR 355, 370, AND 372): SECTION 313 SUPPLIER NOTIFICATION: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372: Naphthalene (CAS# 91-20-3) 4%. STATE REGULATIONS: CALIFORNIA PROPOSITION 65: No warnings are necessary.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

NOT PART OF THE MSDS:

Reference to Section VII. **SPILL OR LEAK PROCEDURES:** Another method widely used to dispose of spilled resin is to measure the amount of spilled resin and mix with the proper amount of the other side (A or B) in a bucket. Let the material harden into a solid block for easy, safer disposal as a solid. NOTE: If the resin has picked up water or a lot of moisture during the spill, the water will react when the resins "A" and "B" are mixed together as a "blowing" agent. In other words, the material will expand in volume depending on how much moisture has been added.

MSDS8018 11/94

**Safety Data Sheet (91/155/EEC)**
ITW Dykem
Revision date: 11.10.2006 No.: 2,00
**STEEL RED LAYOUT FLUID**
00392-0018

## 1. Identification of the substance/preparation and company

**1.1 Commercial product name**
STEEL RED LAYOUT FLUID

**Use of the substance/preparation**
Paint

**1.2 Information manufacturer/supplier**
ITW Dykem
805 E. Old 56 Highway
Olathe, KS 66061
Telephone: 001 913 397 9889 Telefax: 001 913 397 8761
24 Hour Emergency Contact: 001 352 323 3500

## 2. Composition/information on ingredients

**Chemical characterization : ( preparation )**
Preparation in organic solvents

**Hazardous components**
(Full text of each relevant R phrase can be found in heading 16)

| EC No. | CAS No. | Components | Value | Symbols R-phrases |
|---|---|---|---|---|
| 200-578-6 | 64-17-5 | ethanol | 30 - 50 % | F R11 |
| 204-658-1 | 123-86-4 | n-butyl acetate | 30 - 50 % | R10-66-67 |
| 200-751-6 | 71-36-3 | butan-1-ol | < 10 % | Xn, Xi R10-22-37/38 41-67 |
| 200-661-7 | 67-63-0 | propan-2-ol | < 5 % | F, Xi R11-36-67 |
| 204-626-7 | 123-42-2 | 4-hydroxy-4-methylpentan-2-one | < 5 % | Xi R36 |
| 203-686-1 | 109-60-4 | propyl acetate | < 5 % | F, Xi R11-36-66-67 |

## 3. Hazards identification

Symbols : Highly flammable, Irritant
R-phrases :
Highly flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

## 4. First aid measures

**General information**
Remove contaminated soaked clothing immediately.
If you feel unwell, seek medical advice.

**After inhalation**
Move to fresh air in case of accidental inhalation of vapours.
Consult a physician.
If patient is not breathing, apply artificial respiration.

**After contact with skin**
Wash off immediately with soap and plenty of water.
Consult a doctor if skin irritation persists.

**After contact with eyes**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

**After ingestion**
Do not induce vomiting.
Summon a doctor immediately..
Never give anything by mouth to an unconscious person.
If a person vomits when lying on his back, turn over on his side.

## 5. Fire-fighting measures

**Suitable extinguishing media**
Alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water-spray

**Extinguishing media that must not be used for safety reasons**
Full water jet

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**
Fire may produce:
Carbon monoxide and carbon dioxide.

**Special protective equipment for firefighters**
Wear self-contained breathing apparatus and protective suit.

**Additional information**
Vapours are heavier than air and spread along ground.
The vapour/air mixture is explosive, even in empty, uncleaned receptacles.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.

## 6. Accidental release measures

**Personal precautions**
In case of vapour formation use respirator.
Use only explosion-proof equipment.
Ensure adequate ventilation.
Remove persons to safety.
Use personal protective clothing.

**Environmental precautions**
Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning up/taking up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.

**Additional information**
Clean contaminated surface thoroughly.

## 7. Handling and storage

### 7.1 Handling

**Advice on safe handling**
Keep container tightly closed.
Vapours are heavier than air and spread along ground.
Avoid contact with the skin and the eyes.
Use only in thoroughly ventilated areas.

**Advice on protection against fire and explosion**
Keep away from heat and sources of ignition.
Do not smoke.
Take precautionary measures against static discharges.

### 7.2 Storage

**Requirements for storage rooms and vessels**
Keep container tightly closed in a dry, cool and well-ventilated place.
Pay attention to anti-explosion rules.

**Advice on storage compatibility**
Incompatible with oxidizing agents.

**Further information on storage conditions**
Keep away from food, drink and animal feeding stuffs.

**Storageclass (VCI):** 3 A

## 8. Exposure controls/personal protection

### 8.1 Exposure limit values

**Exposure limits (EH40)**

| Components<br>CAS No. | Exposure limit<br>ml/m³ | mg/m³ | F/ml | Category | Origin |
|---|---|---|---|---|---|
| Ethanol | | | | | |
| 64-17-5 | 1000 | 1920 | | TWA (8 h) | OES |
| | - | - | | STEL (15 min) | OES |
| Butyl acetate | | | | | |
| 123-86-4 | 150 | 724 | | TWA (8 h) | OES |
| | 200 | 966 | | STEL (15 min) | OES |
| Butan-1-ol | | | | | |
| 71-36-3 | - | - | | TWA (8 h) | OES |
| | 50 | 154 | | STEL (15 min) | OES |
| Propan-2-ol | | | | | |
| 67-63-0 | 400 | 999 | | TWA (8 h) | OES |
| | 500 | 1250 | | STEL (15 min) | OES |
| 4-Hydroxy-4-methyl-pentan-2-one | | | | | |
| 123-42-2 | 50 | 241 | | TWA (8 h) | OES |
| | 75 | 362 | | STEL (15 min) | OES |
| n-Propyl acetate | | | | | |
| 109-60-4 | 200 | 849 | | TWA (8 h) | OES |
| | 250 | 1060 | | STEL (15 min) | OES |

### 8.2 Exposure controls

**Occupational exposure controls**
Ensure adequate ventilation, especially in confined areas.

**Protective and hygiene measures**
Wash hands before breaks and immediately after handling the product.
When using, do not eat, drink or smoke.
Take off immediately all contaminated clothing.
Avoid contact with skin, eyes and clothing.
Do not inhale vapours.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

**Hand protection**
Splash protection:
Protective gloves resistant to chemicals made off butyl, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) > 60 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

**Eye protection**
Tightly fitting goggles
Eye wash bottle with pure water

**Body protection**
Chemical resistant apron
Long sleeved clothing.

## 9. Physical and chemical properties

### 9.1 Appearance

Form: liquid Colour: red Odour: sweetish

### 9.2 Important health, safety and environmental information

| | | | Test method |
|---|---|---|---|
| **Changes in the physical state** | | | |
| Boiling point: | 76 - 125 | °C | |
| Flash point: | 11 | °C | |
| Ignition temperature: | n.d. | °C | |
| Lower Explosion limit: | 1,4 | vol. % | |
| Upper Explosion limit: | 19,0 | vol. % | |
| Vapour pressure: (at 20 °C) | n.d. | hPa | |
| Density: (at 20 °C) | 0,85 | g/ml | |
| Water solubility: (at 20 °C) | partially miscible | g/l | |

Vapour density: > 1

**Solvent content**
< 95 %

**Further information**

## 10. Stability and reactivity

**Conditions to avoid**
Vapours may form explosive mixture with air.

**Materials to avoid**
strong oxidizing agents

**Hazardous decomposition products**
Carbon monoxide and carbon dioxide

**Additional information**
No decomposition if stored and applied as directed.

## 11. Toxicological information

**Empirical data on effects on humans**
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**Additional information**
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Effects of breathing high concentrations of vapour may include
headache, dizziness, weakness, unconsciousness
Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

## 12. Ecological information

**Additional information**
Do not flush into surface water or sanitary sewer system.
Slightly water hazardous.

## 13. Advice on disposal

**Dispose**
Where possible recycling is preferred to disposal.
Can be incinerated, when in compliance with local regulations.

**Waste disposal number of Waste from residues / unused product : 080111**
WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances
Classified as hazardous waste.

**Contaminated packaging**
Empty containers should be taken for local recycling, recovery or waste disposal.
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

## 14. Transport information

### 14.1 Land transport (ADR/RID)

| | |
|---|---|
| ADR/RID: | 3 |
| Hazard-no.: | 33 |
| UN number: | 1263 |
| Hazard label: | 3 |
| ADR packaging group: | II |

**Description of the goods:**
PAINT

**Remarks**
"LQ 4: combination packaging: 3 l / 12 l; trays: 1 l / 12 l (20 kg total gross mass)"

### 14.2 Inland waterways transport

### 14.3 Marine transport

| | |
|---|---|
| IMDG-Code: | 3 |
| UN number: | 1263 |
| EMS: | F-E; S-E |
| Packaging group: | II |
| Marine pollutant: | No |

**Description of the goods**
PAINT

Hazard label: 3

**Remarks**
Limited quantities (chapter 3.4): combination packaging: 1 l / 30 kg (total gross mass); trays: 1 l / 20 kg (total gross mass)

### 14.4 Air transport

| | |
|---|---|
| ICAO/IATA-DGR: | 3 |
| UN/ID number: | 1263 |
| Hazard label: | 3 |

| | |
|---|---|
| IATA-packing instructions - passenger: | 305 |
| IATA-max. quantity - passenger: | 5 L |
| IATA-packing instructions - Cargo: | 307 |
| IATA-max. quantity - Cargo: | 60 L |

ICAO-packaging group: II

**Description of the goods**
PAINT

### 14.5 Further Information

## 15. Regulatory information

### 15.1 Labelling

**Indication of danger**
F - Highly flammable; Xi - Irritant

**Labelling according to EC-guidelines**
According to EC-regulations the product is to be labelled as follows:

**R phrases**
11-36-66-67
Highly flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**S phrases**
09-16-23-26-35
Keep container in a well-ventilated place.
Keep away from sources of ignition - No smoking.
Do not breathe vapour .
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
This material and its container must be disposed of in a safe way.

### 15.2 National regulations

| | |
|---|---|
| Water contaminating class: | 1 - slightly water contaminating |
| 1999/13/EC (VOC): | < 95 % |

## 16. Other information

**List of relevant R phrases**

| | |
|---|---|
| 10 | Flammable. |
| 11 | Highly flammable. |
| 22 | Harmful if swallowed. |
| 36 | Irritating to eyes. |
| 41 | Risk of serious damage to eyes. |
| 66 | Repeated exposure may cause skin dryness or cracking. |
| 67 | Vapours may cause drowsiness and dizziness. |
| 37/38 | Irritating to respiratory system and skin. |

**Other data**
Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
"(n.a. = not applicable; n.d. = not determined)"

# SAFETY DATA SHEET

**Issuing Date** 16-May-2014 **Revision Date** 19-Nov-2014 **Revision Number** 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**GHS product identifier**

**Product Name** **Dykem Remover and Prep Aerosol**

**Other means of identification**

**Part Number** 82038

**Formula Code** 8947A

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Remover & Cleaner, Aerosol

**Uses advised against** No information available

**Supplier's details**

**Supplier Address**
ITW PRO BRANDS
805 E. Old 56 Highway
Olathe, KS 66061
TEL: 1-800-443-9536

**Emergency telephone number**

**Emergency Telephone Number** 800-535-5053 Infotrac

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

| | |
|---|---|
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific Target Organ Systemic Toxicity (Single Exposure) | Category 3 |
| Flammable aerosols | Category 1 |
| Gases under pressure | Compressed gas |

**GHS Label elements, including precautionary statements**

## Emergency Overview

**Signal Word** **Danger**

**Hazard Statements**

• Causes serious eye irritation
• May cause drowsiness or dizziness
•
• Extremely flammable aerosol
• Contains gas under pressure; may explode if heated

**Appearance** Clear, Colorless **Physical State** Aerosol. **Odor** Sweet, Solvent

**Precautionary Statements**

**Prevention**

• Wash face, hands and any exposed skin thoroughly after handling.
• Wear eye/face protection.
• Avoid breathing dust/fume/gas/mist/vapors/spray.
• Use only outdoors or in a well-ventilated area.
• Keep away from heat/sparks/open flames/hot surfaces - No smoking.
• Do not spray on an open flame or other ignition source
• Pressurized container: Do not pierce or burn, even after use.

**General Advice**

• None

**Eyes**

• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
• If eye irritation persists: Get medical advice/attention.

**Inhalation**

• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
• Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage**

• Store in a well-ventilated place. Keep container tightly closed.
• Store locked up.
• Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
• Protect from sunlight

**Disposal**

• Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % | Trade secret |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Acetone | 67-64-1 | 30-60 | * |
| Ethanol | 64-17-5 | 10-30 | * |
| Butane | 106-97-8 | 7-13 | * |
| n-Propyl acetate | 109-60-4 | 1-5 | * |
| Isopropyl alcohol | 67-63-0 | 1-5 | * |

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

## 4. FIRST AID MEASURES

**Description of necessary first-aid measures**

**General Advice** Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if applicable, and continue flushing. Keep eye wide open while rinsing. Seek immediate medical attention/advice.

**Skin Contact** Wash off immediately with plenty of water. If skin irritation persists, call a physician. Clothing frozen to the skin should be thawed before being removed.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, call a physician.

**Ingestion** Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Consult a physician if necessary

**Protection of First-aiders** Use personal protective equipment. Remove all sources of ignition.

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Carbon dioxide ($CO_2$). Dry chemical. Alcohol-resistant foam.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

Flammable. Flash back possible over considerable distance. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Ruptured cylinders may rocket.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** Yes.

**Protective Equipment and Precautions for Firefighters**

In the event of fire and/or explosion do not breathe fumes

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. Pay attention to flashback. Contents under pressure.

**Environmental Precautions**

**Environmental Precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

**Methods and materials for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Take up with sand or other noncombustible absorbent material and place into containers for later disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. Do not breathe vapors or spray mist. Ensure adequate ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. Keep out of the reach of children. Do not store above 49°C / 120.2°F.

**Incompatible Products** Strong oxidizing agents. Strong acids. Strong reducing agents. Strong alkalis.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Acetone<br>67-64-1 | STEL: 750 ppm<br>TWA: 500 ppm | TWA: 1000 ppm<br>TWA: 2400 mg/m³<br>(vacated) TWA: 750 ppm<br>(vacated) TWA: 1800 mg/m³<br>(vacated) STEL: 2400 mg/m³<br>The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors<br>(vacated) STEL: 1000 ppm | IDLH: 2500 ppm 10% LEL<br>TWA: 250 ppm<br>TWA: 590 mg/m³ |
| Ethanol<br>64-17-5 | STEL: 1000 ppm | TWA: 1000 ppm<br>TWA: 1900 mg/m³<br>(vacated) TWA: 1000 ppm<br>(vacated) TWA: 1900 mg/m³ | IDLH: 3300 ppm 10% LEL<br>TWA: 1000 ppm<br>TWA: 1900 mg/m³ |
| Butane<br>106-97-8 | STEL: 1000 ppm | (vacated) TWA: 800 ppm<br>(vacated) TWA: 1900 mg/m³ | TWA: 800 ppm<br>TWA: 1900 mg/m³ |
| Propane<br>74-98-6 | TWA: 1000 ppm | TWA: 1000 ppm<br>TWA: 1800 mg/m³ | IDLH: 2100 ppm<br>TWA: 1000 ppm<br>TWA: 1800 mg/m³ |
| n-Propyl acetate<br>109-60-4 | STEL: 250 ppm<br>TWA: 200 ppm | TWA: 200 ppm<br>TWA: 840 mg/m³<br>(vacated) TWA: 200 ppm<br>(vacated) TWA: 840 mg/m³<br>(vacated) STEL: 250 ppm<br>(vacated) STEL: 1050 mg/m³ | IDLH: 1700 ppm<br>TWA: 200 ppm<br>TWA: 840 mg/m³<br>STEL: 250 ppm<br>STEL: 1050 mg/m³ |

| | | | |
|---|---|---|---|
| Isopropyl alcohol<br>67-63-0 | STEL: 400 ppm<br>TWA: 200 ppm | TWA: 400 ppm<br>TWA: 980 mg/m³<br>(vacated) TWA: 400 ppm<br>(vacated) TWA: 980 mg/m³<br>(vacated) STEL: 500 ppm<br>(vacated) STEL: 1225 mg/m³ | IDLH: 2000 ppm 10% LEL<br>TWA: 980 mg/m³<br>TWA: 400 ppm<br>STEL: 500 ppm<br>STEL: 1225 mg/m³ |

*Immediately Dangerous to Life or Health. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH:*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Safety glasses with side-shields.
**Skin and Body Protection** Rubber gloves.
**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hygiene Measures** When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State** | Aerosol | **Appearance** | Clear, Colorless |
| **Odor** | Sweet, Solvent | **Odor Threshold** | No information available |

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH** | No data available | None known |
| **Melting Point/Range** | No data available | None known |
| **Boiling Point/Boiling Range** | 56.11 °C / 133 °F | None known |
| **Flash Point** | No data available | None known |
| **Evaporation rate** | | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limits in Air** | | |
| **upper flammability limit** | No data available | |
| **lower flammability limit** | No data available | |
| **Vapor Pressure** | No data available | None known |
| **Vapor Density** | > 1 (air = 1) | None known |
| **Specific Gravity** | No data available. | None known |
| **Water Solubility** | Soluble in water. | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition Temperature** | No data available | None known |
| **Decomposition Temperature** | No data available | None known |
| **Viscosity** | Water thin | None known |

**Flammable Properties** EXTREMELY FLAMMABLE

**Explosive Properties** No data available
**Oxidizing Properties** No data available

**Other information**

**VOC Content (%)** 100.000002384186
**VOC (g/l)** 388 g/l

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Heat, flames and sparks. Temperatures above 49 °C / 120.2 °F. Incompatible products.

**Incompatible materials**

Strong oxidizing agents. Strong acids. Strong reducing agents. Strong alkalis.

**Hazardous decomposition products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** May cause irritation of respiratory tract. May cause drowsiness and dizziness.
**Eye Contact** Causes serious eye irritation.
**Skin Contact** May cause irritation.
**Ingestion** Not an expected route of exposure.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Acetone | = 5800 mg/kg ( Rat ) | 1700mg/kg (rabbit) | 18892 mg/m$^3$ |
| Ethanol | = 7060 mg/kg ( Rat ) | - | = 124.7 mg/L ( Rat ) 4 h |
| Butane | - | - | 658 mg/L ( Rat ) 4 h |
| Propane | - | - | = 658 mg/L ( Rat ) 4 h |
| n-Propyl acetate | = 9370 mg/kg ( Rat ) | > 17760 mg/kg ( Rabbit ) | - |
| Isopropyl alcohol | = 4396 mg/kg ( Rat ) | 12800 mg/kg ( Rat )<br>12870 mg/kg ( Rabbit ) | 72.6 mg/L ( Rat ) 4 h |

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Sensitization** No information available.
**Mutagenic Effects** No information available.
**Carcinogenicity** Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Ethanol | A3 | Group 1 | Known | X |
| Isopropyl alcohol | | Group 3 | | |

**ACGIH: (American Conference of Governmental Industrial Hygienists)**
A3 - Animal Carcinogen

**IARC: (International Agency for Research on Cancer)**
Group 3: Not Classifiable as to its Carcinogenicity to Humans

**NTP: (National Toxicity Program)**
Known - Known Carcinogen

**OSHA: (Occupational Safety & Health Administration)**
X - Present

**Reproductive Toxicity** No information available.
**STOT - single exposure** No information available.
**STOT - repeated exposure** No information available.
**Chronic Toxicity** Avoid repeated exposure. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.
**Target Organ Effects** Respiratory system. Eyes. Skin. Central nervous system (CNS).
**Aspiration Hazard** No information available.

**Numerical measures of toxicity - Product**
*The following values are calculated based on chapter 3.1 of the GHS document:*
**LD50 Oral** 7251 mg/kg; Acute toxicity estimate
**LD50 Dermal** 836601 mg/kg; Acute toxicity estimate
**Inhalation**
**gas** 1968292 mg/L
**dust/mist** 452.8 mg/L; Acute toxicity estimate
**Vapor** 3634.7 mg/L; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Toxic to aquatic life.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|---|---|---|---|
| Acetone<br>67-64-1 | | LC50 96 h: 4.74 - 6.33 mL/L (Oncorhynchus mykiss) LC50 96 h: 6210 - 8120 mg/L static (Pimephales promelas) LC50 96 h: = 8300 mg/L (Lepomis macrochirus) | EC50 = 14500 mg/L 15 min | EC50 48 h: 10294 - 17704 mg/L Static (Daphnia magna) EC50 48 h: 12600 - 12700 mg/L (Daphnia magna) |
| Ethanol<br>64-17-5 | | LC50 96 h: 12.0 - 16.0 mL/L static (Oncorhynchus mykiss) LC50 96 h: > 100 mg/L static (Pimephales promelas) LC50 96 h: 13400 - 15100 mg/L flow-through (Pimephales promelas) | EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min | LC50 48 h: 9268 - 14221 mg/L (Daphnia magna) EC50 24 h: = 10800 mg/L (Daphnia magna) EC50 48 h: = 2 mg/L Static (Daphnia magna) |
| n-Propyl acetate<br>109-60-4 | | LC50 96 h: 56-64 mg/L flow-through (Pimephales promelas) LC50 96 h: 56-64 mg/L static (Pimephales promelas) | | EC50 24 h: = 318 mg/L (Daphnia magna) |

| | | | | |
|---|---|---|---|---|
| Isopropyl alcohol<br>67-63-0 | EC50 96 h: > 1000 mg/L (Desmodesmus subspicatus) EC50 72 h: > 1000 mg/L (Desmodesmus subspicatus) | LC50 96 h: = 11130 mg/L static (Pimephales promelas)<br>LC50 96 h: = 9640 mg/L flow-through (Pimephales promelas)<br>LC50 96 h: > 1400000 µg/L (Lepomis macrochirus) | | EC50 48 h: = 13299 mg/L (Daphnia magna) |

**Persistence and Degradability** No information available.

**Bioaccumulation**

| Chemical Name | Log Pow |
|---|---|
| Acetone | -0.24 |
| Ethanol | -0.32 |
| Butane | 2.89 |
| Isopropyl alcohol | 0.05 |

**Other Adverse Effects**
No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging** Do not re-use empty containers.

**US EPA Waste Number** U002

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|
| Acetone - 67-64-1 | | Included in waste stream: F039 | | U002 |

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste |
|---|---|
| Acetone | Ignitable |
| Ethanol | Toxic<br>Ignitable |
| n-Propyl acetate | Toxic<br>Ignitable |
| Isopropyl alcohol | Toxic<br>Ignitable |

## 14. TRANSPORT INFORMATION

**DOT**

**Proper shipping name** Consumer commodity
**Hazard Class** ORM-D
**Reportable Quantity (RQ)** Acetone: RQ kg= 4172.79
**Description** Consumer commodity, ORM-D
**Emergency Response Guide Number** 126

**TDG**

**UN-Number** UN1950
**Proper Shipping Name** Aerosols
**Hazard Class** 2.1
**Description** UN1950, Aerosols, 2.1

**MEX**

**UN-Number** UN1950
**Proper Shipping Name** Aerosols
**Hazard Class** 2.1
**Description** UN1950, Aerosols, 2.1

**ICAO**

| | |
|---|---|
| **UN-Number** | UN1950 |
| **Proper shipping name** | Aerosols |
| **Hazard Class** | 2.1 |
| **Description** | UN1950, Aerosols, 2.1 |

**IATA**

| | |
|---|---|
| **UN-Number** | UN1950 |
| **Proper Shipping Name** | Aerosols, flammable |
| **Hazard Class** | 2.1 |
| **ERG Code** | 10L |
| **Description** | UN1950, Aerosols, flammable, 2.1 |

**IMDG/IMO**

| | |
|---|---|
| **UN-Number** | UN1950 |
| **Proper Shipping Name** | Aerosols |
| **Hazard Class** | 2 |
| **Subsidiary Class** | See SP63 |
| **EmS No.** | F-D, S-U |
| **Description** | UN1950, Aerosols, 2.1 (See SP63) |

**RID**

| | |
|---|---|
| **UN-Number** | UN1950 |
| **Proper Shipping Name** | Aerosols |
| **Hazard Class** | 2 |
| **Classification Code** | 5F |
| **Description** | UN1950, Aerosols, 2.1 |

**ADR**

| | |
|---|---|
| **UN-Number** | UN1950 |
| **Proper Shipping Name** | Aerosols |
| **Hazard Class** | 2 |
| **Classification Code** | 5F |
| **Tunnel Restriction Code** | (D) |
| **Description** | UN1950, Aerosols, 2.1, (D) |
| **ADR/RID-Labels** | 2.1 |

**ADN**

| | |
|---|---|
| **Proper Shipping Name** | Aerosols |
| **Hazard Class** | 2 |
| **Classification Code** | 5F |
| **Special Provisions** | 190, 327, 344, 625 |
| **Description** | UN1950, Aerosols, 2.1 |
| **Limited Quantity** | 1 L |
| **Ventilation** | VE01, VE04 |

## 15. REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL** | Complies |
| **EINECS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

## U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Isopropyl alcohol | 67-63-0 | 1.53 | 1.0 |

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | Yes |
| **Reactive Hazard** | No |

**Clean Water Act**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---|---|---|---|
| Acetone | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

## U.S. State Regulations

**California Proposition 65**
This product contains the following Proposition 65 chemicals: Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

| Chemical Name | CAS-No | California Prop. 65 |
|---|---|---|
| Ethanol | 64-17-5 | Developmental |

## U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Acetone | X | X | X | | X |
| Ethanol | X | X | X | | |
| Butane | X | X | X | | X |
| Propane | X | X | X | | X |
| n-Propyl acetate | X | X | X | | X |
| Isopropyl alcohol | X | X | X | | X |

**U.S. EPA Label Information**
**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health Hazard** 2 | **Flammability** 4 | **Instability** 0 | **Physical and Chemical Hazards** - |
| **HMIS** | **Health Hazard** 2 | **Flammability** 4 | **Physical Hazard** 0 | **Personal Protection** X |

| | |
|---|---|
| **Prepared By** | Product Stewardship<br>23 British American Blvd.<br>Latham, NY 12110<br>1-800-572-6501 |
| **Issuing Date** | 16-May-2014 |
| **Revision Date** | 19-Nov-2014 |
| **Revision Note** | (M)SDS sections updated: 2, 15, 16. |

**General Disclaimer**

**The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of Safety Data Sheet**

# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**RENLAM® 1700-1 US**

## 1 . Product and company identification

**Product name** : **RENLAM® 1700-1 US**
**Material uses** : Component for laminating systems
**(M)SDS #** : 00066515
**Validation date** : 7/2/2013.

**Supplier/Manufacturer** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**In case of emergency (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**Physical state** : Liquid.
**Odor** : Slight
**Color** : Blue., Cloudy
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Warning

**Hazard statements** : Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

**Precautionary statements** : Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation

## Section 2. Hazards identification

persists: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| Bisphenol A epoxy resin | 60 - 100 | 25068-38-6 |
| Glycidylether of C12-C14 alcohols | 7 - 13 | 68609-97-2 |
| Butylphenyl glycidyl ether | 3 - 7 | 3101-60-8 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Flash point** : Closed cup: >93.33°C (>200°F) [Estimated]

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

**Extinguishing media**

## Section 5. Fire-fighting measures

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** :

## Section 7. Handling and storage

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Blue., Cloudy

**Odor** : Slight

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >93.33°C (>200°F) [Estimated]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Specific gravity** : 1.12

**Water Solubility** : Not available.

**Water Solubility** : Insoluble

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

# Section 11. Toxicological information

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | - | LC0 Inhalation Vapor | Rat - Male | 0.00001 ppm |
| | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 420 Acute Oral Toxicity - Fixed Dose Method | LD50 Oral | Rat - Female | >2000 mg/kg |
| Glycidylether of C12-C14 alcohols | - | LC0 Inhalation Vapor | Rat | >0.15 mg/l |
| | - | LD50 Oral | Rat - Male | 30.1 ml/kg |

## Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Mild irritant |
| | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Eyes - Mild irritant |

### Conclusion/Summary

| | | | |
|---|---|---|---|
| **Skin** | : | Bisphenol A epoxy resin | Slightly irritating to the skin. |
| | | Glycidylether of C12-C14 alcohols | No additional information. |
| | | Butylphenyl glycidyl ether | No additional information. |
| **Eyes** | : | Bisphenol A epoxy resin | Slightly irritating to the eyes. |
| | | Glycidylether of C12-C14 alcohols | No additional information. |
| | | Butylphenyl glycidyl ether | No additional information. |
| **Respiratory** | : | Bisphenol A epoxy resin | No additional information. |
| | | Glycidylether of C12-C14 alcohols | No additional information. |
| | | Butylphenyl glycidyl ether | No additional information. |

## Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 429 Skin Sensitization: Local Lymph Node Assay | skin | Mouse | Sensitizing |
| Glycidylether of C12-C14 alcohols | EPA OPPTS | skin | Guinea pig | Sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| Bisphenol A epoxy resin | Experiment: In vitro<br>Subject: Bacteria<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |
| | Experiment: In vivo | Negative |

## Section 11. Toxicological information

| | | |
|---|---|---|
| Glycidylether of C12-C14 alcohols | Subject: Mammalian-Animal<br>Cell: Somatic<br>Experiment: In vitro<br>Subject: Mammalian-Animal<br>Metabolic activation: +/-<br>Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Negative<br><br>Negative |

### Carcinogenicity

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Male, Female | 15 mg/kg | 2 years; 7 days per week | Negative - Oral - NOAEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Rat - Female | 1 mg/kg | 2 years; 5 days per week | Negative - Dermal - NOEL |
| | OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies | Mouse - Male | 0.1 mg/kg | 2 years; 3 days per week | Negative - Dermal - NOEL |

### Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Negative | Negative | Negative |

### Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD 414 Prenatal Developmental Toxicity Study | Rat - Female | Negative - Oral |
| | EPA CFR | Rabbit - Female | Negative - Dermal |
| | OECD 414 Prenatal Developmental Toxicity Study | Rabbit - Female | Negative - Oral |
| Glycidylether of C12-C14 alcohols | OECD 414 Prenatal Developmental Toxicity Study | Rat - Female | Negative - Dermal |

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

## Section 11. Toxicological information

### Potential chronic health effects

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Bisphenol A epoxy resin | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOEL Dermal | Rat - Male, Female | 10 mg/kg |
| | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOAEL Dermal | Mouse - Male | 100 mg/kg |
| Glycidylether of C12-C14 alcohols | OECD 411 Subchronic Dermal Toxicity: 90-day Study | Sub-chronic NOEL Dermal | Rat - Male, Female | 1 mg/kg/d |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Section 12. Ecological information

### Aquatic ecotoxicity

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Bisphenol A epoxy resin | - | Acute | EC50 | 72 hours Static | Algae | 9.4 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 1.7 | mg/l |
| | - | Acute | IC50 | 3 hours Static | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 1.5 | mg/l |
| | OECD 211 *Daphnia Magna* Reproduction Test | Chronic | NOEC | 21 days Semi-static | Daphnia | 0.3 | mg/l |
| Glycidylether of C12-C14 alcohols | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EL50 | 48 hours Static | Daphnia | 7.2 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | IC50 | 72 hours Static | Algae | 843.75 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 5000 | mg/l |

### Persistence and degradability

## Section 12. Ecological information

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Bisphenol A epoxy resin | OECD Derived from OECD 301F (Biodegradation Test) | 28 days | 5 % |
| Glycidylether of C12-C14 alcohols | OECD 301F Ready Biodegradability - Manometric Respirometry Test | 28 days | 87 % |

**Conclusion/Summary** : Bisphenol A epoxy resin Not readily biodegradable.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Bisphenol A epoxy resin | Fresh water 4.83 days<br>Fresh water 3.58 days<br>Fresh water 7.1 days | - | Not readily |
| Glycidylether of C12-C14 alcohols | - | - | Readily |

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Bisphenol A epoxy resin | 3.242 | 31 | low |
| Glycidylether of C12-C14 alcohols | 3.77 | - | low |

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

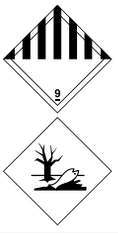
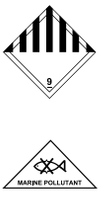
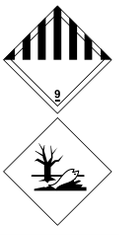
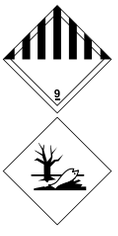
**DOT** : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN). Marine pollutant (Bisphenol A epoxy resin)

**TDG** : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN). Marine pollutant (Bisphenol A epoxy resin)

**IMDG** : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN). Marine pollutant (Bisphenol A epoxy resin)

**IATA** : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN)

## Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| **DOT Classification** | UN3082 | 9 | III |  | - |
| **TDG Classification** | UN3082 | 9 | III |   | - |
| **IMDG Classification** | UN3082 | 9 | III |  | **Emergency schedules (EmS)** F-A, S-F |
| **IATA Classification** | UN3082 | 9 | III |  | **Passenger and Cargo Aircraft** Quantity limitation: 450 L Packaging instructions: 964 **Cargo Aircraft Only** Quantity limitation: 450 L Packaging instructions: 964 |

PG* : Packing group

## Section 15. Regulatory information

**United States**

**U.S. Federal regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

## Section 15. Regulatory information

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

| | Ingredient name | % | Section 304 CERCLA Hazardous Substance | CERCLA Reportable Quantity (Lbs) | Product Reportable Quantity (Lbs) |
|---|---|---|---|---|---|
| **CERCLA Hazardous substances** : | 1-chloro-2, 3-epoxypropane | 8. 5995768123136E-04 | Listed | 100 | 11628464 |

**State regulations**

**PENNSYLVANIA - RTK** : No ingredients listed.

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**International regulations**

**Canada**

**CEPA DSL** : At least one component is not listed.

**WHMIS Classes** : Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**Brazil**

**Regulation** : Decreto Federal n.º 2657 de 3 de novembro de 1998

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: At least one component is not listed.
**Korea inventory**: At least one component is not listed.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :

| | | |
|---|---|---|
| **Health** | * | 2 |
| **Flammability** | | 1 |
| **Physical hazards** | | 0 |
| **Personal protection** | | |

**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

**National Fire Protection Association (U.S.A.)** :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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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**Date of previous issue** : No previous validation.

**Version** : 1

**Indicates information that has changed from previously issued version.**



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***IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.***

***THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.***

## Section 16. Other information

***Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.***

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# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**REN 1700-1 US**

## Section 1. Identification

**GHS product identifier** : **REN 1700-1 US**

**Product code** : 00079805

**Other means of identification** : Not available.

**Product type** : Liquid.

**Material uses** : Surface Coat and Casting Hardener

**Supplier's details** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**Emergency telephone number (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : ACUTE TOXICITY (dermal) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS)) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bones, kidneys and liver) - Category 2
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** :

## Section 2. Hazards identification

Harmful in contact with skin.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May damage the unborn child.
May cause damage to organs. (central nervous system (CNS))
May cause damage to organs through prolonged or repeated exposure. (bones, kidneys, liver)
Toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

**Precautionary statements** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Get medical attention if you feel unwell. IF exposed or if you feel unwell: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| triethylenetetramine, propoxylated | 30 - 60 | 26950-63-0 |
| Triethylene tetramine | 30 - 60 | 112-24-3 |
| Salicylic acid | 7 - 13 | 69-72-7 |
| Nonylphenol | 0.1 - 1 | 84852-15-3 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under

## Section 4. First aid measures

medical surveillance for 48 hours.

**Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

## Section 4. First aid measures

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Flash point** : Open cup: >171°C (>339.8°F)

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

## Section 6. Accidental release measures

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

**Control parameters**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

## Section 8. Exposure controls/personal protection

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [liquid]

**Color** : Amber.

**Odor** : Not available.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Open cup: >171°C (>339.8°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.02 to 1.06

**Solubility in water** : moderate

## Section 9. Physical and chemical properties

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Density** : 1.02 to 1.06 g/cm³

**Viscosity** : Not available.

**VOC** : 10 % (w/w)

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| triethylenetetramine, propoxylated | - | LD50 Dermal | Rabbit | >1000 mg/kg |
| | - | LD50 Oral | Rat | >2000 mg/kg |
| Triethylene tetramine | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rabbit - Male, Female | 1465.4 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1716.2 mg/kg |
| Salicylic acid | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | 891 mg/kg |
| Nonylphenol | - | LD50 Dermal | Rabbit - Male | 2031 mg/kg |
| | Unknown guidelines | LD50 Oral | Rat - Male, Female | 1412 mg/kg |

**Irritation/Corrosion**

# Section 11. Toxicological information

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Triethylene tetramine | OECD 405 Acute Eye Irritation/ Corrosion | Rabbit | Skin - Corrosive |
| | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Eyes - Corrosive |
| Salicylic acid | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | - | Rabbit | Eyes - Severe irritant |

**Conclusion/Summary**

| | | | |
|---|---|---|---|
| **Skin** | : | triethylenetetramine, propoxylated | No additional information. |
| | | Triethylene tetramine | Corrosive to the skin. |
| | | Salicylic acid | Non-irritating to the skin. |
| | | Nonylphenol | No additional information. |
| **Eyes** | : | triethylenetetramine, propoxylated | No additional information. |
| | | Triethylene tetramine | Corrosive to eyes. |
| | | Salicylic acid | Severely irritating to eyes. |
| | | Nonylphenol | No additional information. |
| **Respiratory** | : | triethylenetetramine, propoxylated | No additional information. |
| | | Triethylene tetramine | No additional information. |
| | | Salicylic acid | No additional information. |
| | | Nonylphenol | No additional information. |

**Sensitization**

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Triethylene tetramine | - | skin | Guinea pig | Sensitizing |
| Salicylic acid | - | skin | Mouse | Not sensitizing |
| Nonylphenol | - | skin | Guinea pig | Not sensitizing |

**Mutagenicity**

| Product/ingredient name | Test | Result |
|---|---|---|
| Triethylene tetramine | Experiment: In vitro<br>Subject: Mammalian-Animal | Negative |
| | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |

**Conclusion/Summary** :

| | |
|---|---|
| Triethylene tetramine | The weight of the scientific evidence indicates that this material is non-genotoxic. |
| Salicylic acid | Not mutagenic in a standard battery of genetic toxicological tests. |

**Carcinogenicity**

## Section 11. Toxicological information

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| Triethylene tetramine | OECD 451 Carcinogenicity Studies | Mouse - Male | 42 mg/kg | 3 days per week | Negative - Dermal - NOAEL |
| Salicylic acid | - | Rat - Male, Female | 500 mg/kg | 2 years; 7 days per week | Negative - Oral - NOAEL |

### Reproductive toxicity

| Product/ingredient name | Test | Species | Maternal toxicity | Fertility | Developmental effects |
|---|---|---|---|---|---|
| Salicylic acid | OECD 416 Two-Generation Reproduction Toxicity Study | Rat - Male, Female | Positive | Negative | Positive |
| | OECD 416 Two-Generation Reproduction Toxicity Study | Mouse | Negative | Negative | Negative |

**Conclusion/Summary :**

| | |
|---|---|
| Triethylene tetramine | In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted. |

### Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| Triethylene tetramine | OECD 414 Prenatal Developmental Toxicity Study | Rat | Negative - Oral |
| | OECD 414 Prenatal Developmental Toxicity Study | Rabbit | Negative - Dermal |
| Salicylic acid | OECD 414 Prenatal Developmental Toxicity Study | Rabbit - Female | Negative - Oral |
| Nonylphenol | OECD 414 Prenatal Developmental Toxicity Study | Rat - Female | Negative - Oral |

**Conclusion/Summary :**

| | |
|---|---|
| Salicylic acid | No known significant effects or critical hazards. |

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure :** Not available.

# Section 11. Toxicological information

## Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

## Section 11. Toxicological information

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Triethylene tetramine | OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg/d |
| Salicylic acid | - | Chronic LOAEL Oral | Dog - Male, Female | 150 mg/kg/d |
| | - | Chronic LOAEL Oral | Rat - Male, Female | 250 mg/kg |
| | OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study | Sub-acute NOEC Inhalation Vapor | Rat - Female | 700 mg/m³ |
| Nonylphenol | OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents | Sub-acute NOAEL Oral | Rat - Male, Female | 100 mg/kg |
| | EPA OPPTS | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg |

**General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : May damage the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Not available.

**Other information** : Not available.

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Triethylene tetramine | No official guidelines | Acute | EC50 | 30 minutes Static | Bacteria | 800 | mg/l |
| | EU EC C.2 Acute Toxicity for Daphnia | Acute | EC50 | 48 hours Static | Daphnia | 31.1 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Semi-static | Algae | 20 | mg/l |
| | EPA OPPTS EPA OTS 797.1400 | Acute | LC50 | 96 hours Static | Fish | 330 | mg/l |
| | No official guidelines | Chronic | EC10 | 30 minutes Static | Bacteria | 42.5 | mg/l |
| | OECD OECD 202: Part II (Daphnia sp., Reproduction Test | Chronic | EC10 | 21 days Semi-static | Daphnia | 1.9 | mg/l |

## Section 12. Ecological information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | OECD 201 Alga, Growth Inhibition Test | Chronic | NOECr | 72 hours Semi-static | Algae | <2.5 | mg/l |
| Salicylic acid | OECD 201 Alga, Growth Inhibition Test | Acute | EC50 | 72 hours | Algae | >100 | mg/l |
| | ISO | Acute | EC50 | 16 hours Static | Bacteria | 380 | mg/l |
| | OECD 202 *Daphnia* sp. Acute Immobilisation Test | Acute | EC50 | 48 hours Static | Daphnia | 870 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Flow-through | Fish | 1370 | mg/l |
| | OECD OECD 202: Part II (Daphnia sp., Reproduction Test | Chronic | NOEC | 21 days | Daphnia | 10 | mg/l |
| Nonylphenol | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | EC50 | 3 hours Static | Bacteria | 950 | mg/l |
| | ASTM | Acute | EC50 | 48 hours Static | Daphnia | 0.085 | mg/l |
| | EU EC C.2 Acute Toxicity for Daphnia | Acute | EC50 | 48 hours | Daphnia | 0.14 | mg/l |
| | ASTM | Acute | EC50 | 96 hours Flow-through | Daphnia | 0.596 | mg/l |
| | ASTM | Acute | EC50 | 96 hours Flow-through | Daphnia | 0.0207 | mg/l |
| | Unknown guidelines | Acute | EbC50 (biomass) | 72 hours Static | Algae | 1.3 | mg/l |
| | EPA CFR | Acute | ErC50 (growth rate) | 96 hours Static | Algae | 0.41 | mg/l |
| | ASTM | Acute | LC50 | 96 hours Static | Fish | 0.05 | mg/l |
| | ASTM | Acute | LC50 | 96 hours Flow-through | Fish | 0.128 | mg/l |
| | ASTM | Acute | LC50 | 96 hours Flow-through | Fish | 0.209 | mg/l |
| | ASTM | Acute | LC50 | 96 hours Flow-through | Fish | 0.221 | mg/l |
| | ASTM | Acute | LC50 | 96 hours Static | Fish | 0.08 | mg/l |
| | - | Chronic | EC10 | 72 hours | Algae | 0.5 | mg/l |
| | EPA OPPTS EPA OTS 797.1050 (Algal Toxicity, Tiers I and II) | Chronic | EC10 | 96 hours | Algae | 0.12 | mg/l |
| | ASTM | Chronic | NOEC | 91 days Flow-through | Fish | 0.006 | mg/l |

**Conclusion/Summary** : Salicylic acid Not toxic or harmful to aquatic organisms.

# Section 12. Ecological information

## Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Triethylene tetramine | OECD 302A Inherent Biodegradability: Modified SCAS Test | 84 days | 20 % |
| | OECD 301D Ready Biodegradability - Closed Bottle Test | 162 days | 0 % |
| Salicylic acid | OECD 301C Ready Biodegradability - Modified MITI Test (I) | 14 days | 88.1 % |
| Nonylphenol | EPA OPPTS | 63 days | 100 % |
| | OECD | 56 days | 50 % |
| | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 35 days | 48.2 % |

**Conclusion/Summary** : Triethylene tetramine Not biodegradable

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Salicylic acid | - | - | Readily |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Triethylene tetramine | -2.65 | 99 | low |
| Salicylic acid | 2.25 | - | low |
| Nonylphenol | 5.4 | 740 | high |

## Mobility in soil

Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Other ecological information

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Not regulated.

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product**

**United States Regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

**CERCLA Hazardous substances** : No ingredients listed.

## Section 15. Regulatory information

**State regulations**

**PENNSYLVANIA - RTK** : Triethylene tetramine

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**Canadian regulations**

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

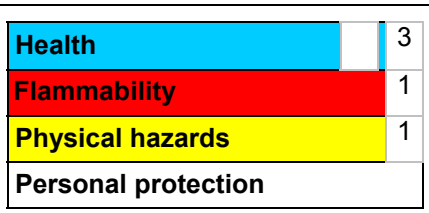
**Brazil Regulations**

**Classification system used** : **Norma ABNT-NBR 14725-2:2012**

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: All components are listed or exempted.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: At least one component is not listed.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

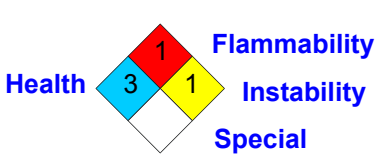
**Hazardous Material Information System (U.S.A.)** :




**The customer is responsible for determining the PPE code for this material.**

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

**National Fire Protection Association (U.S.A.)** :



## Section 16. Other information



| | | |
|---|---|---|
| **Further information** | : | |
| **Date of printing** | : | **4/2/2015.** |
| **Date of issue** | : | 4/2/2015. |
| **Date of previous issue** | : | No previous validation. |
| **Version** | : | 1 |

**Indicates information that has changed from previously issued version.**

**Notice to reader**

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# SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

**REN 956 US**

## 1 . Product and company identification

**Product name** : **REN 956 US**
**Material uses** : Hardener for adhesive systems
**MSDS #** : 00066450
**Validation date** : 5/31/2013.

**Supplier/Manufacturer** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

**e-mail address of person responsible for this SDS** : MSDS@huntsman.com

**In case of emergency (24h/7day)** : Chemtrec: (800) 424-9300 or (703) 527-3887

## Section 2. Hazards identification

**Physical state** : Liquid.
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC TOXICITY (CHRONIC) - Category 3

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

**Precautionary statements** : Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % | CAS number |
|---|---|---|
| triethylenetetramine, propoxylated<br>Triethylenetetramine | 30 - 60<br>30 - 60 | 26950-63-0<br>112-24-3 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Flash point** : Closed cup: >148.89°C (>300°F)

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Triethylenetetramine | **AIHA WEEL (United States, 10/2011). Absorbed through skin.** TWA: 1 ppm 8 hours. |

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

## Section 8. Exposure controls/personal protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Not available.

**Odor** : Not available.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point/Freezing point** : Not available.

**Boiling/condensation point** : Not available.

**Flash point** : Closed cup: >148.89°C (>300°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Specific gravity** : 1.02

**Water Solubility** : Not available.

**Water Solubility** : Slight

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

## Section 10. Stability and reactivity

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Triethylenetetramine | OECD 402 Acute Dermal Toxicity<br>- | LD50 Dermal<br>LD50 Oral | Rabbit - Male, Female<br>Rat - Male, Female | 1465 mg/kg<br>1716 mg/kg |

#### Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Triethylenetetramine | - | Rabbit | Skin - Corrosive |

#### Conclusion/Summary

**Skin** :

| | |
|---|---|
| triethylenetetramine, propoxylated | No known significant effects or critical hazards. |
| Triethylenetetramine | Corrosive to the skin. |

**Eyes** :

| | |
|---|---|
| triethylenetetramine, propoxylated | No known significant effects or critical hazards. |
| Triethylenetetramine | No known significant effects or critical hazards. |

**Respiratory** :

| | |
|---|---|
| triethylenetetramine, propoxylated | No known significant effects or critical hazards. |
| Triethylenetetramine | No known significant effects or critical hazards. |

#### Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Triethylenetetramine | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

#### Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| Triethylenetetramine | Experiment: In vivo<br>Subject: Mammalian-Animal<br>Cell: Somatic | Negative |

**Conclusion/Summary** :

| | |
|---|---|
| Triethylenetetramine | The weight of the scientific evidence indicates that this material is non-genotoxic. |

# Section 11. Toxicological information

## Carcinogenicity

| Product/ingredient name | Test | Species | Dose | Exposure | Result/Result type |
|---|---|---|---|---|---|
| Triethylenetetramine | OECD 451 Carcinogenicity Studies | Mouse - Male | 42 mg/kg | 3 days per week | Negative - Dermal - NOAEL |

## Reproductive toxicity

**Conclusion/Summary** :

Triethylenetetramine — In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

## Teratogenicity

| Product/ingredient name | Test | Species | Result/Result type |
|---|---|---|---|
| Triethylenetetramine | OECD 414 Prenatal Developmental Toxicity Study | Rat | Negative - Oral |
| | OECD 414 Prenatal Developmental Toxicity Study | Rabbit | Negative - Dermal |

## Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : May cause burns to mouth, throat and stomach.

## Potential chronic health effects

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Triethylenetetramine | - | Sub-chronic NOAEL Oral | Rat - Male, Female | 50 mg/kg/d |

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

# Section 12. Ecological information

## Aquatic ecotoxicity

## Section 12. Ecological information

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Triethylenetetramine | - | Acute | EC50 | 30 minutes Static | Bacteria | 800 | mg/l |
| | - | Acute | EC50 | 48 hours Static | Daphnia | 31.1 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Semi-static | Algae | 20 | mg/l |
| | - | Acute | LC50 | 96 hours Static | Fish | 330 | mg/l |
| | OECD OECD 202: Part II (Daphnia sp., Reproduction Test | Chronic | EC50 | 21 days Semi-static | Daphnia | 10 | mg/l |

**Persistence and degradability**

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Triethylenetetramine | OECD 302A Inherent Biodegradability: Modified SCAS Test | 84 days | 20 % |
| | OECD 301D Ready Biodegradability - Closed Bottle Test | 28 days | 0 % |

**Conclusion/Summary** : Triethylenetetramine Not biodegradable

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Triethylenetetramine | - | - | Not readily |

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Triethylenetetramine | -1.4 to 2.9 | 99 | low |

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not determined.

**COD** : Not determined.

**TOC** : Not determined.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

**Proper shipping name**

**DOT** : Not regulated.

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

## Section 15. Regulatory information

**United States**

**U.S. Federal regulations**

**TSCA 8(b) inventory** : All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

**CERCLA Hazardous substances** : No ingredients listed.

## Section 15. Regulatory information

### State regulations

**PENNSYLVANIA - RTK** : No ingredients listed.

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### International regulations

#### Canada

**CEPA DSL** : All components are listed or exempted.

**WHMIS Classes** : Class D-2B: Material causing other toxic effects (Toxic).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

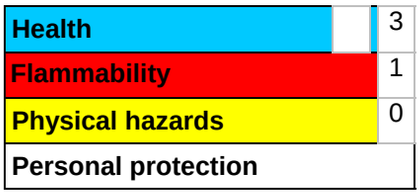
#### Brazil

**Regulation** : Decreto Federal n.º 2657 de 3 de novembro de 1998

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: All components are listed or exempted.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: At least one component is not listed.
**Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

**Hazardous Material Information System (U.S.A.)** :

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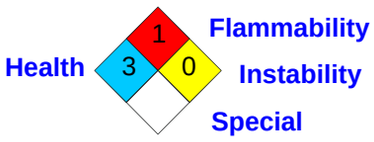


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## Section 16. Other information



**Date of printing** : **5/31/2013.**

**Date of issue** : 5/31/2013.

**Date of previous issue** : No previous validation.

**Version** : 1

**Indicates information that has changed from previously issued version.**

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Huntsman Advanced Materials Americas Inc.

Distributed by Freeman Mfg & Supply Co.
800.321.8511 www.freemansupply.com

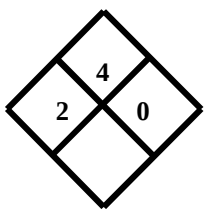
24-Hour Emergency Phone: (800) 328-8501

**Effective Date:** 4/17/06 **Material Safety Data Sheet** **MSDS No: 6759**

## 1. PRODUCT IDENTIFICATION

**Trade Name:** RenLease 79-2

**Chemical Family:** Organic solvent and propellant




**NFPA RATING**

| | |
|---|---|
| **Health:** | **2** |
| **Flammability:** | **4** |
| **Reactivity:** | **0** |
| **Personal Protection:** | |

**HMIS RATING**

**Synonyms:**
RP 79-2

**Intended Use or Product Type:**
Release agent

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| OSHA | CAS No. | CHEMICAL IDENTITY | EXPOSURE LIMITS | | | | | CARCINOGEN STATUS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ACGIH | | OSHA | | MFR. | IARC | NTP | OSHA |
| | | | TWA | STEL | PEL | STEL | | | | |
| * | 142-82-5 | Heptane | 400 ppm | 500 ppm | 500 ppm | 500 ppm | NE | NR | NR | NR |
| * | 67-63-0<br>Common Name: | 2-Propanol<br>Isopropyl alcohol | 200 ppm | 400 ppm | 400 ppm | 500 ppm | NE | NR | NR | NR |
| * | 68476-86-8<br>Common Name: | Petroleum Gases, Liquefied, Sweetened<br>Propane/isobutane blend | NE | NE | NE | NE | NE | NR | NR | NR |

* = OSHA Hazardous Ingredient

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Extremely flammable. Contents under pressure. Vapor or gas reduces oxygen available for breathing. Misuse by concentrating and inhaling the contents can be harmful or fatal. May cause mild irritation if inhaled and may cause mild skin and eye irritation.

**Primary Route(s) of Entry:** Dermal; heated product may produce inhalable vapors.

## 4. FIRST AID MEASURES

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**Skin:** Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

**Inhalation:** Remove to fresh air. Seek immediate medical attention.

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

**Overexposure Effects:** May cause mild irritation if inhaled and may cause mild skin and eye irritation.

**Medical Conditions Aggravated by Exposure:** Skin, eye and pulmonary conditions.

**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point:** | -156°F ( -104 °C) |
| **Flash Point Method Used:** | PMCC |
| **Flammable Limits in Air (Lower - % by volume):** | 1 - 2 For Component |
| **Flammable Limits in Air (Upper - % by volume):** | 9.5 - 12 For Component |

**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam, water.

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

**Fire and Explosion Hazards:** Aerosols may burst if exposed to temperatures above 120 degrees F. Contents of aerosol can are under pressure. Decomposition and combustion products may be toxic.

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Eliminate all sources of ignition. Vapors are heavier than air and may spread long distances or collect in low spots. Remove spillage by absorbing in absorbent material.

## 7. HANDLING AND STORAGE

**Signal Word:** Danger!

**Precautions:** Extremely flammable. Contents under pressure. Vapor or gas reduces oxygen available for breathing. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120F (49C). Do not enter storage areas unless adequately ventilated. Store indoors out of direct sunlight. Keep container closed when not in use. Use with adequate ventilation. Misuse by concentrating and inhaling the contents can be harmful or fatal. May cause mild irritation if inhaled and may cause mild skin and eye irritation. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Skin Protection:** Wear impermeable gloves.

**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

**Eye Protection:** Wear splash-proof chemical goggles.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | Clear |
| **Odor:** | Characteristic Solvent |
| **Physical State:** | Thin Liquid |
| **Solubility in Water:** | Nil |
| **Vapor Pressure:** | 70 mm Hg |
| **Specific Gravity:** | 0.67 (water = 1) |
| **Boiling Point:** | -209°F (-134 °C) (initial) |
| **Freezing Point:** | Not Evaluated |
| **Evaporation Rate:** | > 1 (n-Butyl acetate = 1) |
| **Vapor Density:** | > 1 (Air = 1) |
| **pH:** | Not Determined |
| **Coefficient of water/oil:** | Not Determined |

**Percent Volatile:** 95 - 99

## 10. STABILITY AND REACTIVITY

**Conditions to Avoid:** Keep aerosols away from direct sunlight and other heat sources. Reacts with aluminum above 49 degrees C.

**Stability:** Stable.

**Incompatibility:** Nitric acid and sulfuric acids, strong oxidizers, aldehydes, halogens and halogen compounds.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, and fluorine compounds.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute Inhalation Exposure Effects:** Mild respiratory irritant.

**Skin Irritation:** Mild irritant.

**Eye Irritation:** Mild irritant.

## 12. ECOLOGICAL INFORMATION

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

**14. TRANSPORT INFORMATION**

**DOT: Non-Bulk**
**Proper Shipping Name:** Consumer commodity, orm-d

**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

**15. REGULATORY INFORMATION**

## US Federal Regulations:

**Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

**Resource Conservation and Recovery Act (RCRA):** D 001 ignitable.

**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Chemical Name: 2-Propanol
Common Name: Isopropyl alcohol
Percent in Composition: 4 % by wt
Comment:

**TSCA Section 8(b) - Inventory Status:** All chemical components of this product are in compliance with TSCA inventory requirements.

**TSCA Section 12(b) - Export Notification:** This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

## International Regulations:

**Canadian WHMIS:** A B5

## State Regulations:

**California Proposition 65:** This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

**Pennsylvania Right-to-Know:** The following is required composition information:

Chemical Name: Petroleum Gases, Liquefied, Sweetened
Common Name: Propane/isobutane blend
CAS Number: 68476-86-8
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Heptane
CAS Number: 142-82-5
Comment: Hazardous Substance

Chemical Name: Non-hazardous release blend
CAS Number: Confidential
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: 2-Propanol
Common Name: Isopropyl alcohol
CAS Number: 67-63-0
Comment: Environmental Hazardous Substance

## 16. OTHER INFORMATION

**MSDS No:** 6759
**Approved By:** Dianne Blessing
**Title:** EH&S Specialist

**Disclaimer:** The information and recommendations contained herein are based upon tests in controlled laboratory conditions, are believed to be correct, and are provided for the sole purpose of hazard communication as part of Huntsman's product safety program. This product has not been tested for, and therefore is not recommended or suitable for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended or likely, or for uses for which implantation within the human body is intended, and Huntsman assumes no liability for any such uses.

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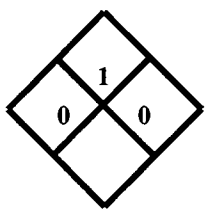
**Effective Date:** 10/2/01 **Material Safety Data Sheet** MSDS No: 5968

## 1. PRODUCT IDENTIFICATION

**Trade Name:** Ren Shape (R) 460

**Chemical Family:** Cured Polyurethane




NFPA RATING

| | |
|---|---|
| Health | 0 |
| Flammability | 1 |
| Reactivity | 0 |
| Protective Equipment | |

HMIS RATING

**Intended Use or Product Type:** Modeling Stock.

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**OSHA Hazardous Ingredients:** The components of this product are not considered to be hazardous as defined by the OSHA Hazard Communication Standard (CFR 1910.1200).

| OSHA | CAS No. | CHEMICAL IDENTITY | EXPOSURE LIMITS | | | | | CARCINOGEN STATUS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ACGIH | | OSHA | | | IARC | NTP | OSHA |
| | | | TWA | STEL | PEL | STEL | | | | |

NE = Not Established NR = Not Reviewed

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Dust hazard. Avoid dusty conditions. Avoid breathing dust. Use with adequate ventilation.

**Primary Route(s) of Entry:** Machining may produce inhalable dust.

## 4. FIRST AID MEASURES

**Eyes:** In case of contact with dust, flush eyes with plenty of water.

**Medical Conditions Aggravated by Exposure:** None known.

**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point:** | Not established |
| **Flash Point Method Used:** | Not Applicable |
| **Flammable Limits in Air (Lower - % by volume):** | Not established |
| **Flammable Limits in Air (Upper - % by volume):** | Not established |

**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam, water.

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

**Fire and Explosion Hazards:** Decomposition and combustion products may be toxic.

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Remove spillage by absorbing in absorbent material.

## 7. HANDLING AND STORAGE

**Signal Word:** Caution!

**Precautions:** Dust hazard. Avoid dusty conditions. Avoid breathing dust. Use with adequate ventilation. Use normal industrial hygiene practices. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Skin Protection:** Wear canvas gloves as a standard handling procedure.

**Respiratory Protection:** Use NIOSH approved dust mask, if required during machining.

**Eye Protection:** Wear safety glasses to protect against dust particles during machining.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | Brown |
| **Physical State:** | Solid |
| **Solubility in Water:** | Insoluble |
| **Vapor Pressure:** | Not Determined |
| **Specific Gravity:** | 0.77 (water = 1) |
| **Boiling Point:** | Not Determined |
| **Evaporation Rate:** | Not Determined |
| **Vapor Density:** | Not Determined |

**pH:** Not Determined

**Percent Volatile:** Negligible.

## 10. STABILITY AND REACTIVITY

**Conditions to Avoid:** Excessive heat for prolonged periods of time.

**Stability:** Stable.

**Incompatibility:** Strong oxidizers, acids and bases.

**Hazardous Decomposition Products:** Combustion may form toxic materials. Carbon monoxide, carbon dioxide, benzene, oxides of nitrogen, hydrogen cyanide.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Eye Irritation:** Dust due to machining may cause irritation.

## 12. ECOLOGICAL INFORMATION

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

## 14. TRANSPORT INFORMATION

**DOT: Non-Bulk**
**Proper Shipping Name:** Solid plastic mass, n.o.i.

**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

## 15. REGULATORY INFORMATION

### US Federal Regulations:

**Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA hazard Communication Standard 29 CFR 1910.1200. This product is not considered to be a hazardous chemical under that standard.

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).

**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Chemical Name: Aluminum oxide (Al2O3)
Common Name: Alumina
Percent in Composition: 1.2682 % by wt
Comment:

**TSCA Section 8(b) - Inventory Status:** Chemical components listed on TSCA Inventory.

## State Regulations:

**Pennsylvania Right-to-Know:** The following is required composition information:

Chemical Name: Cured Polyurethane
CAS Number: Confidential
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Carbonic acid calcium salt (1:1)
Common Name: Calcium Carbonate
CAS Number: 471-34-1
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Silica
Common Name: Fumed Silica
CAS Number: 7631-86-9
Comment: Hazardous Substance

Chemical Name: Aluminum oxide (Al2O3)
Common Name: Alumina
CAS Number: 1344-28-1
Comment: Environmental Hazardous Substance

## 16. OTHER INFORMATION

| | |
|---|---|
| **MSDS No:** | 5968 |
| **Approved By:** | Kenneth L. Payne |
| **Title:** | E,H&S Manager |

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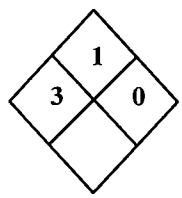
Value beyond chemistry

**Effective Date:** 10/20/98 **Material Safety Data Sheet** **MSDS No: 6017**

## 1. PRODUCT IDENTIFICATION

**Trade Name:** RP 1700-1 HARDENER

**Chemical Family:** Accelerated Amine




NFPA RATING

| | |
|---|---|
| HEALTH | 3 |
| FLAMMABILITY | 1 |
| REACTIVITY | 0 |
| PROTECTIVE EQUIPMENT | |

HMIS RATING

**Intended Use or Product Type:** Laminating hardener.

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| OSHA | CAS# | CHEMICAL IDENTITY | EXPOSURE LIMITS | | | | | CARCINOGEN STATUS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ACGIH | | OSHA | | MFR. | IARC | NTP | OSHA |
| | | | TWA | STEL | PEL | STEL | | | | |
| * | 112-24-3<br>Common Name: | 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-<br>Triethylenetetramine | NE | NE | NE | NE | NE | NR | NR | NR |
| * | 25154-52-3<br>Common Name: | Phenol, Nonyl-<br>Nonyl Phenol | NE | NE | NE | NE | NE | NR | NR | NR |
| * | 68441-70-3<br>Common Name: | Triethylene Tetramine Polymer with Methyl Oxirane<br>Propoxylated Triethylene Tetramine | NE | NE | NE | NE | NE | NR | NR | NR |
| * | 69-72-7<br>Common Name: | Benzoic acid, 2-hydroxy-<br>Salicylic Acid | NE | NE | NE | NE | NE | NR | NR | NR |

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Danger! Corrosive - Causes eye burns and skin irritation.

**Primary Route(s) of Entry:** Dermal; heated product may produce inhalable vapors.

## 4. FIRST AID MEASURES

**Ingestion:** If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

**Skin:** Wash with soap and water. Remove contaminated clothing and launder before re-use .

**Inhalation:** Remove to fresh air. Give oxygen and/or artificial respiration, if needed. Call a physician.

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Call a physician.

**Overexposure Effects:** Danger! Corrosive. Causes eye burns and skin irritation.

**Medical Conditions Aggravated by Exposure:** Skin and eye conditions.

**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point:** | > 340°F (> 171 °C) |
| **Flash Point Method Used:** | Open Cup |
| **Flammable Limits in Air (Lower - % by volume):** | Not Determined |
| **Flammable Limits in Air (Upper - % by volume):** | Not Determined |

**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam, water.

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

**Fire and Explosion Hazards:** Decomposition and combustion products may be toxic.

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Remove spillage by absorbing in absorbent material.

## 7. HANDLING AND STORAGE

**Precautions:** Danger! Corrosive. Causes eye burns and skin irritation. Do not get in eyes. Avoid contact with skin and clothing. Avoid breathing vapor and mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Skin Protection:** Wear impermeable gloves.

**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

**Eye Protection:** Wear splash-proof chemical goggles.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Clear |
| **Color:** | Amber |
| **Odor:** | Slight Ammoniacal |
| **Physical State:** | Liquid |
| **Solubility in Water:** | Moderate |
| **Vapor Pressure:** | Not Determined |
| **Specific Gravity:** | 1.02 - 1.06 (water = 1) |
| **Boiling Point:** | Not Determined |
| **Evaporation Rate:** | Not Determined |
| **Vapor Density:** | Not Determined |
| **VOC:** | 104.52 g/L |
| **pH:** | Not Determined |

## 10. STABILITY AND REACTIVITY

**Conditions to Avoid:** Excessive heat for prolonged periods of time.

**Stability:** Stable.

**Incompatibility:** Strong oxidizing agents, acids, metal-organic compounds.

**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Sensitization:** Possible in susceptible individuals.

**Skin Irritation:** Irritant.

**Eye Irritation:** Regard as corrosive.

## 12. ECOLOGICAL INFORMATION

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

## 14. TRANSPORT INFORMATION

**DOT: Non-Bulk**
**Proper Shipping Name:** Resin compounds, N.O.I.

**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

## 15. REGULATORY INFORMATION

**Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is not considered to be a hazardous chemical under that standard.

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).

**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product does not contain a toxic chemical for routine annual 'Toxic Chemical Release Reporting' under Sec. 313 (40 CFR 372).

**TSCA Section 8(b) - Inventory Status:** Chemical components listed on TSCA Inventory.

**Pennsylvania Right-to-Know:** The following is required composition information:

Chemical Name : 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-
CASRN : 112-24-3
Common Name : Triethylenetetramine
Comment : Hazardous Substance.

Chemical Name : Triethylene Tetramine Polymer with Methyl Oxirane
CASRN : 68441-70-3
Common Name : Propoxylated Triethylene Tetramine
Comment : Not on Pennsylvania Hazardous Substance List.

Chemical Name : Benzoic acid, 2-hydroxy-
CASRN : 69-72-7
Common Name : Salicylic Acid
Comment : Not on Pennsylvania Hazardous Substance List.

Chemical Name : Phenol, Nonyl-
CASRN : 25154-52-3
Common Name : Nonyl Phenol
Comment : Hazardous Substance.

## 16. OTHER INFORMATION

**MSDS No:** 6017
**Approved By:** Kenneth L. Payne
**Title:** E,H&S Manager

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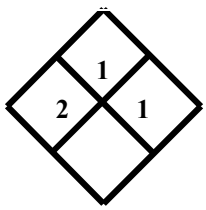
**Effective Date:** 6/16/04 **Material Safety Data Sheet** MSDS No: 6160

## 1. PRODUCT IDENTIFICATION

**Trade Name:** RP 71-1 PUR-Tect II

**Chemical Family:** Halogenated, Hydrocarbon




NFPA RATING

| | |
|---|---|
| Health: | 2 |
| Flammability: | 1 |
| Reactivity: | 1 |
| Personal Protection: | |

HMIS RATING

**Intended Use or Product Type:** Dry purging agent

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| OSHA | CAS No. | CHEMICAL IDENTITY | EXPOSURE LIMITS | | | | | CARCINOGEN STATUS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ACGIH | | OSHA | | MFR. | IARC | NTP | OSHA |
| | | | TWA | STEL | PEL | STEL | | | | |
| | 75-45-6<br><br>Common Name: | Methane, Chlorodifluoro-<br><br>Chlorodifluoromethane | 1000 ppm | NE | NE | NE | Table Z1A TWA 1000 ppm | NR | NR | NR |

NE = Not Established NR = Not Reviewed

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** In accord with good industrial practice, handle with due care.

## 4. FIRST AID MEASURES

**Ingestion:** If conscious, give 2 - 4 glasses of water to drink. Do not induce vomiting. Call a physician.

**Skin:** Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

**Inhalation:** Remove to fresh air. Call a physician.

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Call a physician.

**Medical Conditions Aggravated by Exposure:** Skin and eye conditions.

**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point:** | Non-Flammable |
| **Flammable Limits in Air (Lower - % by volume):** | Not established |
| **Flammable Limits in Air (Upper - % by volume):** | Not established |

**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam, water.

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

**Fire and Explosion Hazards:** Decomposition and combustion products may be toxic.

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Remove spillage by absorbing in absorbent material.

## 7. HANDLING AND STORAGE

**Signal Word:** Warning!

**Precautions:** Contents under pressure. Vapor or gas reduces oxygen available for breathing. Skin contact may freeze tissue. Misuse by concentrating and inhaling the contents can be harmful or fatal. Do not puncture or incinerate container. Do not expose to heat or store at temperature above 120 degrees F (49 degrees C). Store indoors out of direct sunlight. Do not enter storage areas unless adequately ventilated. Keep container closed when not in use. Use with adequate ventilation. Use normal industrial hygiene practices. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Skin Protection:** Wear impermeable gloves.

**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

**Eye Protection:** Wear splash-proof chemical goggles.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Color:** | Colorless |
| **Odor:** | Faint Ethereal |
| **Physical State:** | Liquified Gas |

| | |
|---|---|
| **Solubility in Water:** | 0.3 |
| **Vapor Pressure:** | 136 mm Hg at 23°C (73 °F) PSI |
| **Specific Gravity:** | 1.21 (water = 1) |
| **Boiling Point:** | -40.8°F (-40.4 °C) |
| **Evaporation Rate:** | Not Determined |
| **Vapor Density:** | 2.98 (Air = 1) |
| **VOC:** | 1270 g/L |
| **pH:** | Not Determined |

**Percent Volatile:** Negligible.

## 10. STABILITY AND REACTIVITY

**Conditions to Avoid:** Excessive heat for prolonged periods of time.

**Stability:** Stable.

**Incompatibility:** Strong oxidizers, acids and bases.

**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

## 12. ECOLOGICAL INFORMATION

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

## 14. TRANSPORT INFORMATION

**DOT: Non-Bulk**
**Proper Shipping Name:** Consumer commodity, orm-d

**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

## 15. REGULATORY INFORMATION

### US Federal Regulations:

**Clean Air Act - Ozone Depleting Substances (ODS):** This product contains, or was manufactured with, the following Class I or Class II ozone depleting substance(s) (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B):

Chemical Name: Methane, Chlorodifluoro-
Common Name: Chlorodifluoromethane
CAS Number: 75-45-6
Percent in Composition: 100 % by wt

**Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).

**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Chemical Name: Methane, Chlorodifluoro-
Common Name: Chlorodifluoromethane
Percent in Composition: 100 % by wt
Comment:

**TSCA Section 8(b) - Inventory Status:** All chemical components of this product are in compliance with TSCA inventory requirements.

**TSCA Section 12(b) - Export Notification:** This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

## State Regulations:

**California Proposition 65:** This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

**Pennsylvania Right-to-Know:** The following is required composition information:

Chemical Name: Methane, Chlorodifluoro-
Common Name: Chlorodifluoromethane
CAS Number: 75-45-6
Comment: Hazardous Substance

## 16. OTHER INFORMATION

**MSDS No:** 6160
**Approved By:** Dianne Blessing
**Title:** EH&S Specialist

**Disclaimer:** The information and recommendations contained herein are based upon tests in controlled laboratory conditions, are believed to be correct, and are provided for the sole purpose of hazard communication as part of Huntsman's product safety program. This product has not been tested for, and therefore is not recommended or suitable for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended or likely, or for uses for which implantation within the human body is intended, and Huntsman assumes no liability for any such uses.

The information and recommendations contained herein are not intended to constitute performance information concerning the product, which is available in separate technical data sheets available from Huntsman upon request. Users are urged, and are urged to

urge others who may come in contact with the product, to obtain and consult data sheets prior to purchase, use, transportation or storage of the product.

HUNTSMAN MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE. HUNTSMAN'S LIABILITY IS STRICTLY LIMITED TO REIMBURSEMENT OF BUYER'S PURCHASE PRICE, OR IN HUNTSMAN'S DISCRETION REPLACEMENT, OF THE PRODUCT IN RESPECT OF WHICH SUCH CLAIM IS MADE. HUNTSMAN'S LIABILITY IS STRICTLY LIMITED BY LEGAL NOTICES IN TECHNICAL DATA SHEETS, PRODUCT LITERATURE AND/OR SALE DOCUMENTS. The foregoing DISCLAIMERS and LIMITATION OF LIABILITY supercede inconsistent or contradictory provisions in Buyer's documents.

USER SHOULD CONSULT A LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENTAL AGENCY TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT. HUNTSMAN DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **RTV Silicone Sealant - Clear (pressurized)**

**Other means of identification**

**Product code** 14055

**Recommended use** Sealant and adhesive

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufactured or sold by:**

**Company name** CRC Industries, Inc.

**Address** 885 Louis Dr.
Warminster, PA 18974 US

**Telephone**

**General Information** 215-674-4300

**Technical Assistance** 800-521-3168

**Customer Service** 800-272-4620

**24-Hour Emergency (CHEMTREC)** 800-424-9300 (US)
703-527-3887 (International)

**Website** www.crcindustries.com

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Gases under pressure | Compressed gas |
| **Health hazards** | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2B |
| **Environmental hazards** | Hazardous to the aquatic environment, acute hazard | Category 3 |
| | Hazardous to the aquatic environment, long-term hazard | Category 3 |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Warning

**Hazard statement** Contains gas under pressure; may explode if heated. Causes skin irritation. Causes eye irritation. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention** Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wash hands thoroughly after handling. Wear protective gloves. Avoid release to the environment.

**Response** If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

**Disposal** Dispose of contents/container in accordance with local/regional/national regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information**

When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc).

97.2% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 97.2% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Polydimethylsiloxane, hydroxy-terminated | | 70131-67-8 | >= 70 |
| Amorphous silica | | 7631-86-9 | 7 - 13 |
| Distillates (petroleum), Hydrotreated Middle | | 64742-46-7 | 5 - 10 |
| Ethyltriacetoxysilane | | 17689-77-9 | 1 - 5 |
| Methyltriacetoxysilane | | 4253-34-3 | 1 - 5 |
| Polydimethylsiloxane | | 63148-62-9 | 1 - 5 |
| Nitrogen | | 7727-37-9 | 1 - 3 |

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

**Inhalation** Move to fresh air. Get medical attention immediately.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention.

**Most important symptoms/effects, acute and delayed** Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

**Suitable extinguishing media** Water. Dry chemical, CO2, or water spray.

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical** Contents under pressure. During fire, gases hazardous to health may be formed. When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc).

**Special protective equipment and precautions for firefighters** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Wear self-contained breathing apparatus and protective clothing.

**Fire-fighting equipment/instructions** In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. In the event of fire, cool tanks with water spray.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Shovel up and place in a container for salvage or disposal. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray nozzle is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Avoid breathing vapor. Avoid contact with skin. Avoid contact with eyes. Avoid contact with clothing. Use only in well-ventilated areas. When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc). Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

**Conditions for safe storage, including any incompatibilities**

Level 1 Aerosol.

Keep container closed and store away from water or moisture. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value | Form |
|---|---|---|---|
| Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7) | PEL | 5 mg/m3 | Mist. |

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Amorphous silica (CAS 7631-86-9) | TWA | 0.8 mg/m3<br>20 millions of particle |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value | Form |
|---|---|---|---|
| Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7) | TWA | 5 mg/m3 | Inhalable fraction. |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value | Form |
|---|---|---|---|
| Amorphous silica (CAS 7631-86-9) | TWA | 6 mg/m3 | |
| Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7) | STEL | 10 mg/m3 | Mist. |
| | TWA | 5 mg/m3 | Mist. |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

Occupational Exposure Limits are not relevant to the current physical form of the product. Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | Wear safety glasses with side shields (or goggles). |
| **Skin protection** | |
| **Hand protection** | Wear protective gloves such as: Nitrile. Butyl rubber. |
| **Other** | Wear appropriate chemical resistant clothing. |
| **Respiratory protection** | In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels. |
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **General hygiene considerations** | When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Solid. |
| **Form** | Paste. |
| **Color** | Translucent. |
| **Odor** | Acetic acid. |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | 680 °F (360 °C) estimated |
| **Flash point** | 275 °F (135 °C) Closed Cup estimated |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | Not available. |
| **Flammability limit - upper (%)** | Not available. |
| **Vapor pressure** | 4.2 hPa estimated |
| **Vapor density** | Not available. |
| **Relative density** | 1.01 |
| **Solubility (water)** | Not available. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | 500 °F (260 °C) estimated |
| **Decomposition temperature** | Not available. |
| **Viscosity (kinematic)** | Not available. |
| **Percent volatile** | < 3 % |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials. When exposed to water or humid air, product evolves acetic acid (HOAc). When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. |
| **Incompatible materials** | Strong oxidizing agents. Moist air. Water, moisture. |
| **Hazardous decomposition products** | Carbon oxides. Traces of incompletely burned carbon compounds. Silicone dioxide. Formaldehyde. Metal oxides. Nitrogen oxides (NOx). Sulfur oxides. Chlorine compounds. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | Expected to be a low ingestion hazard. |

**Inhalation** Inhalation of fumes may result in metal fume fever, a flu-like illness with symptoms of metallic taste, fever and chills, aches, chest tightness, and cough. Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor concentrations are attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion or loss of coordination.

**Skin contact** Causes skin irritation.

**Eye contact** Causes eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

**Information on toxicological effects**

**Acute toxicity** Not available.

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes eye irritation.

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| Amorphous silica (CAS 7631-86-9) | 3 Not classifiable as to carcinogenicity to humans. |

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

| Product | | Species | Test Results |
|---|---|---|---|
| RTV Silicone Sealant - Clear (pressurized) | | | |
| Fish | LC50 | Fish | 511.3231 mg/l, 96 hours estimated |

| Components | | Species | Test Results |
|---|---|---|---|
| Polydimethylsiloxane (CAS 63148-62-9) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Channel catfish (Ictalurus punctatus) | 2.36 - 4.15 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| Nitrogen | 0.67 |

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal of waste from residues / unused products** This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.

**Hazardous waste code** Not regulated.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Label(s)** | 2.2 |
| **Packing group** | Not applicable. |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Packaging exceptions** | 306 |
| **Packaging non bulk** | None |
| **Packaging bulk** | None |

**IATA**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | No. |
| **ERG Code** | 2L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Other information** | |
| **Passenger and cargo aircraft** | Allowed. |
| **Cargo aircraft only** | Allowed. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS, LIMITED QUANTITY |
| **Transport hazard class(es)** | |
| **Class** | 2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-D, S-U |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**SARA 304 Emergency release notification**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**CERCLA Hazardous Substances: Reportable quantity**

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Section 311/312 Hazard categories**
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**US state regulations**

**US. New Jersey RTK - Substances: Listed substance**

Amorphous silica (CAS 7631-86-9)
Nitrogen (CAS 7727-37-9)

**US. Massachusetts RTK - Substance List**

Amorphous silica (CAS 7631-86-9)
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)
Nitrogen (CAS 7727-37-9)

**US. Pennsylvania RTK - Hazardous Substances**

Amorphous silica (CAS 7631-86-9)
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)
Nitrogen (CAS 7727-37-9)

**US. Rhode Island RTK**

None.

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**Volatile organic compounds (VOC) regulations**

**EPA**

**VOC content (40 CFR 51.100(s))** < 3 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

**State**

**Consumer products** This product is regulated as a Sealant and Caulking Compound. This product is compliant for use in all 50 states.

**VOC content (CA)** < 3 %

**VOC content (OTC)** < 3 %

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 12-04-2013
**Prepared by** Allison Cho
**Version #** 01

| | |
|---|---|
| **Further information** | Not available. |
| **HMIS® ratings** | Health: 1<br>Flammability: 1<br>Physical hazard: 0<br>Personal protection: B |
| **NFPA ratings** | Health: 1<br>Flammability: 1<br>Instability: 0 |
| **Disclaimer** | The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries. |

# Material Safety Data Sheet

**Date of issue** 9 September 2012
**Version** 14

## 1 . Product and company identification

**Product name** : PITT-TECH SATIN ACRYLIC ENAMEL
**Code** : 90-476
**Supplier** : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
**Emergency telephone number** : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
**Technical Phone Number** : 888-977-4762

## 2 . Hazards identification

**Emergency overview** : DANGER!

HARMFUL IF ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. MAY CAUSE EYE IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**Potential acute health effects**

**Inhalation** : May be harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat.
**Ingestion** : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
**Skin** : Toxic in contact with skin.
**Eyes** : Moderately irritating to eyes.

**Over-exposure signs/symptoms**

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
**Skin** : No specific data.
**Eyes** : Adverse symptoms may include the following:
irritation
watering
redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).**

**See toxicological information (Section 11)**

## 3 . Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| Talc , not containing asbestiform fibres | 14807-96-6 | 3 - 7 |
| Acetic acid, C9-11-branched alkyl esters, C10-rich | 108419-34-7 | 1 - 5 |
| titanium dioxide | 13463-67-7 | 1 - 5 |
| 2-(2-methoxyethoxy)ethanol | 111-77-3 | 1 - 5 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

**Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

**Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

**Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## 6 . Accidental release measures

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store below the following temperature: 32F / 0C.

## 8 . Exposure controls/personal protection

| Name | Result | ACGIH | OSHA | Ontario | Mexico | PPG |
|---|---|---|---|---|---|---|
| Talc , not containing asbestiform fibres | TWA | 2 mg/m³ R | 20 mppcf Z | 2 mg/m³ R | 2 mg/m³ R | Not established |
| titanium dioxide | TWA | 10 mg/m³ | 15 mg/m³ TD | 10 mg/m³ TD | 10 mg/m³ (as Ti) | Not established |
| | STEL | Not established | Not established | Not established | 20 mg/m³ (as Ti) | Not established |
| 2-(2-methoxyethoxy)ethanol | TWA | Not established | Not established | Not established | Not established | 30 ppm |

**Key to abbreviations**

| | | | | | |
|---|---|---|---|---|---|
| A | = | Acceptable Maximum Peak | S | = | Potential skin absorption |
| ACGIH | = | American Conference of Governmental Industrial Hygienists. | SR | = | Respiratory sensitization |
| C | = | Ceiling Limit | SS | = | Skin sensitization |
| F | = | Fume | STEL | = | Short term Exposure limit values |
| IPEL | = | Internal Permissible Exposure Limit | TD | = | Total dust |
| OSHA | = | Occupational Safety and Health Administration. | TLV | = | Threshold Limit Value |
| R | = | Respirable | TWA | = | Time Weighted Average |
| Z | = | OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances | | | |

**Consult local authorities for acceptable exposure limits.**

## 8 . Exposure controls/personal protection

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Eyes** : Safety glasses with side shields.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Respiratory** : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

**Physical state** : Liquid.

**Flash point** : Closed cup: >93.33°C (>200°F)

**Material supports combustion.** : Yes.

**Color** : Not available.

**Odor** : Not available.

**pH** : Not available.

**Boiling/condensation point** : >37.78°C (>100°F)

**Melting/freezing point** : Not available.

**Specific gravity** : 1.1

**Density ( lbs / gal )** : 9.18

**Vapor pressure** : 2.3 kPa (17.3 mm Hg) [room temperature]

**Vapor density** : Not available.

**Volatility** : 66% (v/v), 59.41% (w/w)

**Evaporation rate** : 0.31 (butyl acetate = 1)

**Partition coefficient: n-octanol/water** : Not available.

**% Solid. (w/w)** : 40.59

## 9 . Physical and chemical properties

## 10 . Stability and reactivity

**Stability** : Stable under recommended storage and handling conditions (see Section 7).

**Conditions to avoid** : No specific data.

**Materials to avoid** : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11 . Toxicological information

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| titanium dioxide | LD50 Oral | Rat | >10 g/kg | - |
| 2-(2-methoxyethoxy)ethanol | LD50 Oral | Rat | 4 mL/kg | - |
| | LD50 Dermal | Rabbit | 0.65 g/kg | - |

**Conclusion/Summary** : Not available.

### Chronic toxicity

**Conclusion/Summary** : Not available.

**Target organs** : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin.

### Carcinogenicity

**Carcinogenicity** : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

### Classification

| Product/ingredient name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| titanium dioxide | A4 | 2B | - | - |

**Carcinogen Classification code:**
**ACGIH: A1, A2, A3, A4, A5**
**IARC: 1, 2A, 2B, 3, 4**
**NTP: Proven, Possible**
**OSHA: +**
**Not listed or regulated as a carcinogen: -**

**Teratogenicity** : Contains material which may cause birth defects, based on animal data.

**Developmental effects** : Contains material which may cause developmental abnormalities, based on animal data.

## 12 . Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| 2-(2-methoxyethoxy) ethanol | Acute LC50 7500000 ug/L Fresh water | Fish - Bluegill - Lepomis macrochirus | 96 hours |

## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures**

## 14 . Transport information

| Regulation | UN number | Proper shipping name | Classes | PG* | Additional information |
|---|---|---|---|---|---|
| UN | None. | Not regulated. | None. | - | - |
| IMDG | None. | Not regulated. | None. | - | - |
| DOT | None. | Not regulated. | None. | - | - |

PG* : Packing group

Reportable quantity RQ : CERCLA: Hazardous substances.: ammonia, anhydrous: 100 lbs. (45.4 kg); 2-(2-methoxyethoxy)ethanol;

## 15 . Regulatory information

**United States inventory (TSCA 8b)** : All components are listed or exempted.
**Australia inventory (AICS)** : At least one component is not listed.
**Canada inventory ( DSL )** : All components are listed or exempted.
**China inventory (IECSC)** : Not determined.
**Europe inventory ( REACH )** : Please contact your supplier for information on the inventory status of this material.
**Japan inventory (ENCS)** : At least one component is not listed.
**Korea inventory (KECI)** : At least one component is not listed.
**New Zealand ( NZIoC )** : Substance Use Restricted
**Philippines inventory (PICCS)** : At least one component is not listed.

**United States**

**U.S. Federal regulations** :

**United States - TSCA 5(a)2 - Final significant new use rules:**
sodium nitrite Listed

**SARA 302/304/311/312 extremely hazardous substances**: No products were found.
**SARA 302/304 emergency planning and notification**: No products were found.
**SARA 302/304/311/312 hazardous chemicals**: Talc , not containing asbestiform fibres; titanium dioxide; 2-(2-methoxyethoxy)ethanol
CERCLA: Hazardous substances.: ammonia, anhydrous: 100 lbs. (45.4 kg); 2-(2-methoxyethoxy)ethanol;

**SARA 311/312 MSDS Distribution - Chemical Inventory - Hazard Identification:**

| Chemical name | CAS # | Acute | Chronic | Fire | Reactive | Pressure |
|---|---|---|---|---|---|---|

## 15 . Regulatory information

| | | | | | | |
|---|---|---|---|---|---|---|
| **Talc , not containing asbestiform fibres** | **14807-96-6** | Y | N | N | N | N |
| **Acetic acid, C9-11-branched alkyl esters, C10-rich** | **108419-34-7** | N | N | N | N | N |
| **titanium dioxide** | **13463-67-7** | N | Y | N | N | N |
| **2-(2-methoxyethoxy)ethanol** | **111-77-3** | Y | Y | Y | N | N |
| | **Product as-supplied :** | Y | Y | N | N | N |

| SARA 313 | Chemical name | CAS number | Concentration |
|---|---|---|---|
| **Supplier notification** | : 2-(2-methoxyethoxy)ethanol | 111-77-3 | 1 - 5 |

**Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.**

**Canada**

**WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

**Mexico**

**Classification**

**Flammability** : 1 **Health** : 3 **Reactivity** : 0

## 16 . Other information

**Hazardous Material Information System (U.S.A.)**

**Health** : 3 * **Flammability** : 1 **Physical hazards** : 0
**( * ) - Chronic effects**

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)**

**Health** : 3 **Flammability** : 1 **Instability** : 0

**Date of previous issue** : **7/28/2012.**

**Organization that prepared the MSDS** : EHS

**Indicates information that has changed from previously issued version.**

**Disclaimer**

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 11-3173-9 | **Version Number:** | 14.00 |
| **Issue Date:** | 04/16/15 | **Supercedes Date:** | 09/22/14 |

**Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive 3549 B/A and 3M™ Scotch-Weld™ Urethane Adhesive DP640

**ID Number(s):**

62-3549-0501-0, 62-3549-1430-1, 62-3549-1435-0, 62-3549-3530-6, 62-3549-3830-0, 62-3549-6401-7

**Recommended use**
2-Part Urethane Adhesive, Industrial use

**Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

**This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:**

10-3187-1, 10-3186-3

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**3M USA SDSs are available at www.3M.com**

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 10-3186-3 | **Version Number:** | 27.00 |
| **Issue Date:** | 08/11/15 | **Supercedes Date:** | 04/16/15 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive 3549 B/A and 3M™ Scotch-Weld™ Urethane Adhesive DP640, Part B

**Product Identification Numbers**
62-3549-8501-2

**1.2. Recommended use and restrictions on use**

**Recommended use**
Structural adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Health Hazard |

**Pictograms**

**Hazard Statements**
Causes damage to organs through prolonged or repeated exposure:
respiratory system |

**Precautionary Statements**

**Prevention:**
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
Get medical advice/attention if you feel unwell.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
None.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Polyester Resin (NJTS Reg. No. 04499600-7133) | Trade Secret* | 40 - 70 Trade Secret * |
| Polypropylene Glycol | 25322-69-4 | 10 - 30 Trade Secret * |
| Talc | 14807-96-6 | 10 - 30 Trade Secret * |
| Glass Spheres | 1318-02-1 | 1 - 10 Trade Secret * |
| Polyoxypropylene Triol | 25723-16-4 | 1 - 10 Trade Secret * |
| o-Diethylbisaniline | 13680-35-8 | 1 - 5 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
No need for first aid is anticipated.

**Eye Contact:**
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**
None inherent in this product.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Irritant Vapors or Gases | During Combustion |

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**

Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Aluminum, insoluble compounds | 1318-02-1 | ACGIH | TWA(respirable fraction):1 mg/m3 | A4: Not class. as human carcin |
| Talc | 14807-96-6 | OSHA | TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft. | |
| Talc | 14807-96-6 | ACGIH | TWA(respirable fraction):2 mg/m3 | A4: Not class. as human carcin |
| Talc | 14807-96-6 | CMRG | TWA(as respirable dust):0.5 mg/m3 | |
| Polypropylene Glycol | 25322-69-4 | AIHA | TWA(as aerosol):10 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

### 8.2. Exposure controls

#### 8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

#### 8.2.2. Personal protective equipment (PPE)

**Eye/face protection**
None required.

**Skin/hand protection**
No chemical protective gloves are required.

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Paste |
| **Odor, Color, Grade:** | Off-White, Slight Odor. |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | >=179 ºC |
| **Flash Point** | >=354 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *Not Applicable* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *Not Applicable* |
| **Flammable Limits(UEL)** | *Not Applicable* |
| **Vapor Pressure** | *Not Applicable* |
| **Vapor Density** | *Not Applicable* |
| **Density** | 1.31 g/ml |
| **Specific Gravity** | 1.31 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 10,000 - 40,000 centipoise [@ 73.4 ºF ] [*Test Method:* Brookfield] |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* when used as intended with Part A] |
| **VOC Less H2O & Exempt Solvents** | 6.78 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* as supplied] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
None known.

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
May cause additional health effects (see below).

**Skin Contact:**
Contact with the skin during product use is not expected to result in significant irritation.

**Eye Contact:**
Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
May be harmful if swallowed.

**Additional Health Effects:**

**Prolonged or repeated exposure may cause target organ effects:**
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| Polypropylene Glycol | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Polypropylene Glycol | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Talc | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Talc | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Polyoxypropylene Triol | Dermal | Rat | LD50 > 2,000 mg/kg |
| Polyoxypropylene Triol | Ingestion | Rat | LD50 > 2,500 mg/kg |
| Glass Spheres | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Glass Spheres | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 4.57 mg/l |
| Glass Spheres | Ingestion | Rat | LD50 > 5,000 mg/kg |
| o-Diethylbisaniline | Ingestion | Rat | LD50 1,901 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|

| | | |
|---|---|---|
| Polypropylene Glycol | Rabbit | No significant irritation |
| Talc | Rabbit | No significant irritation |
| Polyoxypropylene Triol | Rabbit | No significant irritation |
| Glass Spheres | Rabbit | No significant irritation |
| o-Diethylbisaniline | Rabbit | Minimal irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Polypropylene Glycol | Rabbit | No significant irritation |
| Talc | Rabbit | No significant irritation |
| Polyoxypropylene Triol | Rabbit | Mild irritant |
| Glass Spheres | Rabbit | Mild irritant |
| o-Diethylbisaniline | Rabbit | No significant irritation |

**Skin Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| Talc | Human | Not sensitizing |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Talc | In Vitro | Not mutagenic |
| Talc | In vivo | Not mutagenic |
| o-Diethylbisaniline | In Vitro | Not mutagenic |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Talc | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Talc | Ingestion | Not toxic to development | Rat | NOAEL 1,600 mg/kg | during organogenesis |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Talc | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Talc | Inhalation | pulmonary fibrosis \| respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 18 mg/m3 | 113 weeks |

**Aspiration Hazard**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 10-3186-3 | **Version Number:** | 27.00 |
| **Issue Date:** | 08/11/15 | **Supercedes Date:** | 04/16/15 |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 10-3187-1 | **Version Number:** | 25.00 |
| **Issue Date:** | 04/16/15 | **Supercedes Date:** | 04/27/10 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive 3549 B/A and 3M™ Scotch-Weld™ Urethane Adhesive DP640, Part A

**1.2. Recommended use and restrictions on use**

**Recommended use**
Accelerator for 2-Part Polyurethane Adhesive, Industrial use

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure:
respiratory system |

**Precautionary Statements**

**Prevention:**
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Get medical advice/attention if you feel unwell.

**Storage:**
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

2% of the mixture consists of ingredients of unknown acute oral toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Urethane Prepolymer (NJTS Reg. No. 04499600-5770P) | Trade Secret* | 15 - 40 Trade Secret * |
| Higher Oligomers of MDI | 9016-87-9 | 10 - 30 Trade Secret * |

| | | |
|---|---|---|
| Talc | 14807-96-6 | 10 - 30 Trade Secret * |
| p,p'-Methylenebis(phenyl isocyanate) | 101-68-8 | 10 - 30 Trade Secret * |
| Diphenylmethane Diisocyanate (MDI) | 26447-40-5 | 1 - 10 Trade Secret * |
| Glass Spheres | 68989-22-0 | 1 - 5 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**
None inherent in this product.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Isocyanates | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Cyanide | During Combustion |
| Oxides of Nitrogen | During Combustion |

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial or professional use only. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| FREE ISOCYANATES | 101-68-8 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |
| p,p'-Methylenebis(phenyl isocyanate) | 101-68-8 | ACGIH | TWA:0.005 ppm | |
| p,p'-Methylenebis(phenyl isocyanate) | 101-68-8 | OSHA | CEIL:0.2 mg/m3(0.02 ppm) | |
| Talc | 14807-96-6 | CMRG | TWA(as respirable dust):0.5 mg/m3 | |
| Talc | 14807-96-6 | OSHA | TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 | |

| | | | | |
|---|---|---|---|---|
| | | | mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft. | |
| Talc | 14807-96-6 | ACGIH | TWA(respirable fraction):2 mg/m3 | A4: Not class. as human carcin |
| FREE ISOCYANATES | 26447-40-5 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |
| Aluminum, insoluble compounds | 68989-22-0 | ACGIH | TWA(respirable fraction):1 mg/m3 | A4: Not class. as human carcin |
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | ACGIH | TWA:0.005 ppm | |
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | OSHA | CEIL:0.2 mg/m3(0.02 ppm) | |
| FREE ISOCYANATES | 9016-87-9 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Neoprene
Nitrile Rubber
Natural Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Paste |
| **Odor, Color, Grade:** | Brown, slight odor. |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *Not Applicable* |
| **Boiling Point** | >=186 ºC |
| **Flash Point** | >=367 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *Not Applicable* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Pressure** | *No Data Available* |
| **Vapor Density** | *No Data Available* |
| **Density** | 1.35 g/ml |
| **Specific Gravity** | 1.35 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 15,000 - 32,000 centipoise [@ 73.4 ºF ] [*Test Method:* Brookfield] |
| **Hazardous Air Pollutants** | <= 20 % weight [*Test Method:* Calculated] |
| **Hazardous Air Pollutants** | 0.39 lb HAPS/lb solids [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* when used as intended with Part B] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* as supplied] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

**10.5. Incompatible materials**
Amines
Alcohols
Water
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure

buildup.
Strong acids
Strong bases
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
May be harmful if inhaled.
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

**Skin Contact:**
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Additional Health Effects:**

**Prolonged or repeated exposure may cause target organ effects:**
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

**Additional Information:**

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE 20 - 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Talc | Dermal | | LD50 Not available |
| Talc | Ingestion | | LD50 Not available |
| Higher Oligomers of MDI | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Higher Oligomers of MDI | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Higher Oligomers of MDI | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| Higher Oligomers of MDI | Ingestion | Rat | LD50 31,600 mg/kg |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| p,p'-Methylenebis(phenyl isocyanate) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| p,p'-Methylenebis(phenyl isocyanate) | Ingestion | Rat | LD50 31,600 mg/kg |
| Diphenylmethane Diisocyanate (MDI) | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Diphenylmethane Diisocyanate (MDI) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Diphenylmethane Diisocyanate (MDI) | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| Diphenylmethane Diisocyanate (MDI) | Ingestion | Rat | LD50 31,600 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Talc | Rabbit | No significant irritation |
| Higher Oligomers of MDI | official classification | Irritant |
| p,p'-Methylenebis(phenyl isocyanate) | official classification | Irritant |
| Diphenylmethane Diisocyanate (MDI) | official classification | Irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Talc | Rabbit | No significant irritation |
| Higher Oligomers of MDI | official classification | Severe irritant |
| p,p'-Methylenebis(phenyl isocyanate) | official classification | Severe irritant |
| Diphenylmethane Diisocyanate (MDI) | official classification | Severe irritant |

### Skin Sensitization

| Name | Species | Value |
|---|---|---|
| Higher Oligomers of MDI | official classification | Sensitizing |
| p,p'-Methylenebis(phenyl isocyanate) | official classification | Sensitizing |
| Diphenylmethane Diisocyanate (MDI) | official classification | Sensitizing |

### Respiratory Sensitization

| Name | Species | Value |
|---|---|---|
| Talc | Human | Not sensitizing |
| Higher Oligomers of MDI | Human | Sensitizing |
| p,p'-Methylenebis(phenyl isocyanate) | Human | Sensitizing |
| Diphenylmethane Diisocyanate (MDI) | Human | Sensitizing |

### Germ Cell Mutagenicity

| Name | Route | Value |
|---|---|---|
| Talc | In Vitro | Not mutagenic |
| Talc | In vivo | Not mutagenic |
| Higher Oligomers of MDI | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| p,p'-Methylenebis(phenyl isocyanate) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Diphenylmethane Diisocyanate (MDI) | In Vitro | Some positive data exist, but the data are not sufficient for classification |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Talc | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Higher Oligomers of MDI | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Diphenylmethane Diisocyanate (MDI) | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Talc | Ingestion | Not toxic to development | Rat | NOAEL 1,600 mg/kg | during organogenesis |
| Higher Oligomers of MDI | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.004 mg/l | during organogenesis |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.004 mg/l | during organogenesis |
| Diphenylmethane Diisocyanate (MDI) | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.004 mg/l | during organogenesis |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Higher Oligomers of MDI | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| Diphenylmethane Diisocyanate (MDI) | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Talc | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Talc | Inhalation | pulmonary fibrosis \| respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 18 mg/m3 | 113 weeks |
| Higher Oligomers of MDI | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| p,p'-Methylenebis(phenyl isocyanate) | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| Diphenylmethane Diisocyanate (MDI) | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |

**Aspiration Hazard**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and

disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Higher Oligomers of MDI | 9016-87-9 | 10 - 30 |
| Higher Oligomers of MDI (DIISOCYANATES (CERTAIN CHEMICALS ONLY)) | 9016-87-9 | 10 - 30 |
| Higher Oligomers of MDI (Benzene, 1,1'-methylenebis[4-isocyanato-) | 9016-87-9 | 10 - 30 |
| p,p'-Methylenebis(phenyl isocyanate) (Benzene, 1,1'-methylenebis[4-isocyanato-) | 101-68-8 | 10 - 30 |
| p,p'-Methylenebis(phenyl isocyanate) | 101-68-8 | 10 - 30 |
| p,p'-Methylenebis(phenyl isocyanate) (DIISOCYANATES (CERTAIN CHEMICALS ONLY)) | 101-68-8 | 10 - 30 |

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address

the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 10-3187-1 | **Version Number:** | 25.00 |
| **Issue Date:** | 04/16/15 | **Supercedes Date:** | 04/27/10 |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 10-5100-2 | **Version Number:** | 31.03 |
| **Issue Date:** | 04/16/15 | **Supercedes Date:** | 04/15/15 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Scotch-Weld™ Neoprene High Performance Rubber and Gasket Adhesive EC-1300L, Yellow

**Product Identification Numbers**

| ID Number | UPC | ID Number | UPC |
|---|---|---|---|
| 62-1403-6543-8 | 00-21200-19928-8 | | |

**1.2. Recommended use and restrictions on use**

**Recommended use**
Adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Aerospace and Commercial Transportation Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Highly flammable liquid and vapor.

Causes serious eye irritation.
Causes skin irritation.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure:
nervous system |
sensory organs |

**Precautionary Statements**

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**

None.

16% of the mixture consists of ingredients of unknown acute dermal toxicity.
16% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| PETROLEUM DISTILLATE | 64741-84-0 | 20 - 40 Trade Secret * |
| METHYL ETHYL KETONE | 78-93-3 | 20 - 30 Trade Secret * |
| MAGNESIUM RESINATE | 68037-42-3 | 10 - 20 |
| POLYCHLOROPRENE | 9010-98-4 | 10 - 20 |
| HEXANE | 110-54-3 | 5 - 20 Trade Secret * |
| TOLUENE | 108-88-3 | 7 - 13 Trade Secret * |
| HEPTANE | 142-82-5 | 1 - 10 Trade Secret * |
| CYCLOHEXANE | 110-82-7 | 0.1 - 2.5 Trade Secret * |
| ZINC OXIDE | 1314-13-2 | 0.1 - 0.9 |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Aldehydes | During Combustion |
| Hydrocarbons | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Chloride | During Combustion |
| Ketones | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| TOLUENE | 108-88-3 | OSHA | TWA:200 ppm;CEIL:300 ppm | |
| TOLUENE | 108-88-3 | ACGIH | TWA:20 ppm | A4: Not class. as human carcin |
| TOLUENE | 108-88-3 | CMRG | STEL:75 ppm | Skin Notation |
| HEXANE | 110-54-3 | OSHA | TWA:1800 mg/m3(500 ppm) | |
| HEXANE | 110-54-3 | ACGIH | TWA:50 ppm | Skin Notation |
| CYCLOHEXANE | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |
| CYCLOHEXANE | 110-82-7 | ACGIH | TWA:100 ppm | |
| ZINC OXIDE | 1314-13-2 | ACGIH | TWA(respirable fraction):2 mg/m3;STEL(respirable fraction):10 mg/m3 | |
| ZINC OXIDE | 1314-13-2 | OSHA | TWA(as fume):5 mg/m3;TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| HEPTANE | 142-82-5 | OSHA | TWA:2000 mg/m3(500 ppm) | |
| HEPTANE | 142-82-5 | ACGIH | TWA:400 ppm;STEL:500 ppm | |
| METHYL ETHYL KETONE | 78-93-3 | ACGIH | TWA:200 ppm;STEL:300 ppm | |
| METHYL ETHYL KETONE | 78-93-3 | OSHA | TWA:590 mg/m3(200 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Polymer laminate

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Odor, Color, Grade:** | Low viscosity; yellow; sweet odor |
| **Odor threshold** | *No Data Available* |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | 140 ºF |
| **Flash Point** | -14.00 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | >=2.50 [*Ref Std:* ETHER=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 1.00 % |
| **Flammable Limits(UEL)** | 11.50 % |
| **Vapor Pressure** | 120 mmHg [@ 68 ºF] |
| **Vapor Density** | 3.00 [*Ref Std:* AIR=1] |
| **Specific Gravity** | 0.88 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | Approximately 675 centipoise |
| **Volatile Organic Compounds** | <=622 g/l [*Test Method:* calculated SCAQMD rule 443.1] |
| **VOC Less H2O & Exempt Solvents** | <=623 g/l [*Test Method:* calculated SCAQMD rule 443.1] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Sparks and/or flames

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

**Prolonged or repeated exposure may cause target organ effects:**
Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE > 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| PETROLEUM DISTILLATE | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| PETROLEUM DISTILLATE | Inhalation-Vapor (4 hours) | Rat | LC50 259 mg/l |
| PETROLEUM DISTILLATE | Ingestion | Rat | LD50 > 5,000 mg/kg |
| METHYL ETHYL KETONE | Dermal | Rabbit | LD50 > 8,050 mg/kg |
| METHYL ETHYL KETONE | Inhalation-Vapor (4 hours) | Rat | LC50 34.5 mg/l |
| METHYL ETHYL KETONE | Ingestion | Rat | LD50 2,737 mg/kg |
| HEXANE | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| HEXANE | Inhalation-Vapor (4 hours) | Rat | LC50 170 mg/l |
| HEXANE | Ingestion | Rat | LD50 > 28,700 mg/kg |
| MAGNESIUM RESINATE | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| POLYCHLOROPRENE | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| POLYCHLOROPRENE | Ingestion | Rat | LD50 > 20,000 mg/kg |
| HEPTANE | Dermal | Rabbit | LD50 3,000 mg/kg |
| HEPTANE | Inhalation-Vapor (4 hours) | Rat | LC50 103 mg/l |
| HEPTANE | Ingestion | Rat | LD50 > 15,000 mg/kg |
| TOLUENE | Dermal | Rat | LD50 12,000 mg/kg |
| TOLUENE | Inhalation-Vapor (4 hours) | Rat | LC50 30 mg/l |
| TOLUENE | Ingestion | Rat | LD50 5,550 mg/kg |
| CYCLOHEXANE | Dermal | Rat | LD50 > 2,000 mg/kg |
| CYCLOHEXANE | Inhalation-Vapor (4 hours) | Rat | LC50 > 32.9 mg/l |
| CYCLOHEXANE | Ingestion | Rat | LD50 6,200 mg/kg |
| ZINC OXIDE | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| ZINC OXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.7 mg/l |
| ZINC OXIDE | Ingestion | Rat | LD50 > 5,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| PETROLEUM DISTILLATE | Rabbit | Irritant |
| METHYL ETHYL KETONE | Rabbit | Minimal irritation |
| HEXANE | Human and animal | Mild irritant |
| POLYCHLOROPRENE | Human | No significant irritation |
| HEPTANE | Human | Mild irritant |
| TOLUENE | Rabbit | Irritant |
| CYCLOHEXANE | Rabbit | Mild irritant |

| | | |
|---|---|---|
| ZINC OXIDE | Human and animal | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| PETROLEUM DISTILLATE | Rabbit | Mild irritant |
| METHYL ETHYL KETONE | Rabbit | Severe irritant |
| HEXANE | Rabbit | Mild irritant |
| POLYCHLOROPRENE | Professional judgement | No significant irritation |
| HEPTANE | Professional judgement | Moderate irritant |
| TOLUENE | Rabbit | Moderate irritant |
| CYCLOHEXANE | Rabbit | Mild irritant |
| ZINC OXIDE | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| PETROLEUM DISTILLATE | Guinea pig | Not sensitizing |
| HEXANE | Human | Not sensitizing |
| TOLUENE | Guinea pig | Not sensitizing |
| ZINC OXIDE | Guinea pig | Some positive data exist, but the data are not sufficient for classification |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| PETROLEUM DISTILLATE | In Vitro | Not mutagenic |
| METHYL ETHYL KETONE | In Vitro | Not mutagenic |
| HEXANE | In Vitro | Not mutagenic |
| HEXANE | In vivo | Not mutagenic |
| HEPTANE | In Vitro | Not mutagenic |
| TOLUENE | In Vitro | Not mutagenic |
| TOLUENE | In vivo | Not mutagenic |
| CYCLOHEXANE | In Vitro | Not mutagenic |
| CYCLOHEXANE | In vivo | Some positive data exist, but the data are not sufficient for classification |
| ZINC OXIDE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ZINC OXIDE | In vivo | Some positive data exist, but the data are not sufficient for classification |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| METHYL ETHYL KETONE | Inhalation | Human | Not carcinogenic |
| HEXANE | Dermal | Mouse | Not carcinogenic |
| HEXANE | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| TOLUENE | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| TOLUENE | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| TOLUENE | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| METHYL ETHYL KETONE | Inhalation | Not toxic to female reproduction | Rat | NOAEL 14.7 mg/l | 90 days |
| METHYL ETHYL KETONE | Inhalation | Not toxic to male reproduction | Rat | NOAEL 14.7 mg/l | 90 days |
| METHYL ETHYL KETONE | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | LOAEL 8.8 mg/l | during gestation |
| HEXANE | Ingestion | Not toxic to development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesis |
| HEXANE | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.7 mg/l | during gestation |
| HEXANE | Ingestion | Toxic to male reproduction | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| HEXANE | Inhalation | Toxic to male reproduction | Rat | LOAEL 3.52 mg/l | 28 days |
| TOLUENE | Inhalation | Some positive female reproductive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| TOLUENE | Inhalation | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 2.3 mg/l | 1 generation |
| TOLUENE | Ingestion | Toxic to development | Rat | LOAEL 520 mg/kg/day | during gestation |
| TOLUENE | Inhalation | Toxic to development | Human | NOAEL Not available | poisoning and/or abuse |
| CYCLOHEXANE | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| CYCLOHEXANE | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| CYCLOHEXANE | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |
| ZINC OXIDE | Ingestion | Some positive reproductive/developmental data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 125 mg/kg/day | premating & during gestation |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| PETROLEUM DISTILLATE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| PETROLEUM DISTILLATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| METHYL ETHYL KETONE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | official classification | NOAEL Not available | |
| METHYL ETHYL KETONE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| METHYL ETHYL KETONE | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | not applicable |

| | | | | | | |
|---|---|---|---|---|---|---|
| METHYL ETHYL KETONE | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1,080 mg/kg | not applicable |
| HEXANE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| HEXANE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL Not available | 8 hours |
| HEXANE | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24.6 mg/l | 8 hours |
| HEPTANE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| HEPTANE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| HEPTANE | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| TOLUENE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| TOLUENE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| TOLUENE | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 0.004 mg/l | 3 hours |
| TOLUENE | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| CYCLOHEXANE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| CYCLOHEXANE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| METHYL ETHYL KETONE | Dermal | nervous system | All data are negative | Guinea pig | NOAEL Not available | 31 weeks |
| METHYL ETHYL KETONE | Inhalation | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 14.7 mg/l | 90 days |
| METHYL ETHYL KETONE | Inhalation | heart \| endocrine system \| bone, teeth, nails, and/or hair \| hematopoietic system \| immune system \| muscles | All data are negative | Rat | NOAEL 14.7 mg/l | 90 days |
| METHYL ETHYL KETONE | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 7 days |
| METHYL ETHYL KETONE | Ingestion | nervous system | All data are negative | Rat | NOAEL 173 mg/kg/day | 90 days |
| HEXANE | Inhalation | peripheral nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| HEXANE | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 1.76 mg/l | 13 weeks |
| HEXANE | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 months |
| HEXANE | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.76 mg/l | 6 months |
| HEXANE | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for | Mouse | NOAEL 35.2 mg/l | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | classification | | | |
| HEXANE | Inhalation | auditory system \| immune system \| eyes | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| HEXANE | Inhalation | heart \| skin \| endocrine system | All data are negative | Rat | NOAEL 1.76 mg/l | 6 months |
| HEXANE | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| HEXANE | Ingestion | endocrine system \| hematopoietic system \| liver \| immune system \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 13 weeks |
| HEPTANE | Inhalation | liver \| nervous system \| kidney and/or bladder | All data are negative | Rat | NOAEL 12 mg/l | 26 weeks |
| TOLUENE | Inhalation | auditory system \| nervous system \| eyes \| olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| TOLUENE | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2.3 mg/l | 15 months |
| TOLUENE | Inhalation | heart \| liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 11.3 mg/l | 15 weeks |
| TOLUENE | Inhalation | endocrine system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.1 mg/l | 4 weeks |
| TOLUENE | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL Not available | 20 days |
| TOLUENE | Inhalation | bone, teeth, nails, and/or hair | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| TOLUENE | Inhalation | hematopoietic system \| vascular system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| TOLUENE | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 625 mg/kg/day | 13 weeks |
| TOLUENE | Ingestion | heart | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| TOLUENE | Ingestion | liver \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| TOLUENE | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 600 mg/kg/day | 14 days |
| TOLUENE | Ingestion | endocrine system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 105 mg/kg/day | 28 days |
| TOLUENE | Ingestion | immune system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 105 mg/kg/day | 4 weeks |
| CYCLOHEXANE | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| CYCLOHEXANE | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |
| CYCLOHEXANE | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| CYCLOHEXANE | Inhalation | hematopoietic | Some positive data exist, but the | Mouse | NOAEL 24 | 14 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | system | data are not sufficient for classification | | mg/l | |
| CYCLOHEXANE | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |
| ZINC OXIDE | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 600 mg/kg/day | 10 days |
| ZINC OXIDE | Ingestion | endocrine system \| hematopoietic system \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Other | NOAEL 500 mg/kg/day | 6 months |

**Aspiration Hazard**

| Name | Value |
|---|---|
| PETROLEUM DISTILLATE | Aspiration hazard |
| HEXANE | Aspiration hazard |
| HEPTANE | Aspiration hazard |
| TOLUENE | Aspiration hazard |
| CYCLOHEXANE | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable), D018 (Benzene), D035 (Methyl ethyl ketone)

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| TOLUENE | 108-88-3 | 7 - 13 |
| CYCLOHEXANE | 110-82-7 | 0.1 - 2.5 |
| HEXANE | 110-54-3 | 5 - 20 |

## 15.2. State Regulations

Contact 3M for more information.

**California Proposition 65**

| Ingredient | C.A.S. No. | Classification |
|---|---|---|
| TOLUENE | 108-88-3 | Female reproductive toxin |
| TOLUENE | 108-88-3 | Developmental Toxin |

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

## 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

## 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

# SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 10-5100-2 | **Version Number:** | 31.03 |
| **Issue Date:** | 04/16/15 | **Supercedes Date:** | 04/15/15 |

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for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 11-2406-4 | **Version Number:** | 11.02 |
| **Issue Date:** | 12/30/15 | **Supercedes Date:** | 10/02/14 |

**Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive DP605NS, Off-White

**ID Number(s):**

62-3592-3830-0

**Recommended use**
Structural adhesive

**Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

**This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:**

11-2404-9, 11-2405-6

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 11-2404-9 | **Version Number:** | 18.01 |
| **Issue Date:** | 12/09/14 | **Supercedes Date:** | 10/02/14 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive DP605NS, Off-White (Part B)

**1.2. Recommended use and restrictions on use**

**Recommended use**
Structural adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**

May cause an allergic skin reaction.
May damage fertility or the unborn child.

**Precautionary Statements**

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.

**Storage:**
Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
None.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Castor Oil | 8001-79-4 | 35 - 45 Trade Secret * |
| Polyester Resin (NJTS Reg. No. 04499600-7134) | Trade Secret* | 20 - 30 Trade Secret * |
| Polypropylene Glycol | 25322-69-4 | 10 - 20 Trade Secret * |
| Amorphous Silica | 67762-90-7 | 1 - 10 Trade Secret * |
| Titanium Dioxide | 13463-67-7 | 1 - 10 Trade Secret * |
| Polyoxypropylene Triol | 25723-16-4 | 1 - 5 Trade Secret * |
| Dibutyltin Dilaurate | 77-58-7 | <= 0.3 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
No need for first aid is anticipated.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**
None inherent in this product.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**
No special storage requirements.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Titanium Dioxide | 13463-67-7 | ACGIH | TWA:10 mg/m3 | A4: Not class. as human carcin |
| Titanium Dioxide | 13463-67-7 | CMRG | TWA(as respirable dust):5 mg/m3 | |
| Titanium Dioxide | 13463-67-7 | OSHA | TWA(as total dust):15 mg/m3 | |
| Polypropylene Glycol | 25322-69-4 | AIHA | TWA(as aerosol):10 mg/m3 | |
| Amorphous Silica | 67762-90-7 | CMRG | CEIL:5 mg/m3 | |
| SILICA, AMORPHOUS | 67762-90-7 | OSHA | TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft. | |
| TIN, ORGANIC COMPOUNDS | 77-58-7 | ACGIH | TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3 | A4: Not class. as human carcin, Skin Notation |
| TIN, ORGANIC COMPOUNDS | 77-58-7 | OSHA | TWA(as Sn):0.1 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**
None required.

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Neoprene
Nitrile Rubber

**Respiratory protection**

Respiratory protection is not required.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Paste |
| **Odor, Color, Grade:** | White paste |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *Not Applicable* |
| **Boiling Point** | >=179 ºC |
| **Flash Point** | >=354 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *Not Applicable* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *Not Applicable* |
| **Flammable Limits(UEL)** | *Not Applicable* |
| **Vapor Pressure** | *Not Applicable* |
| **Vapor Density** | *Not Applicable* |
| **Density** | 1.08 g/ml |
| **Specific Gravity** | 1.08 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 100,000 centipoise [@ 73.4 ºF ] |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* when used as intended with Part A] |
| **VOC Less H2O & Exempt Solvents** | 5.62 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* as supplied] |
| **VOC Less H2O & Exempt Solvents** | 0 % [*Test Method:* calculated per CARB title 2] [*Details:* when used as intended with Part A] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
None known.

**10.5. Incompatible materials**
None known.

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
No health effects are expected.

**Skin Contact:**
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Additional Health Effects:**

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**

| Ingredient | CAS No. | Class Description | Regulation |
|---|---|---|---|
| Titanium Dioxide | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Castor Oil | Ingestion | | LD50 estimated to be > 5,000 |
| Polypropylene Glycol | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Polypropylene Glycol | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Amorphous Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Amorphous Silica | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Amorphous Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |
| Titanium Dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |

| | | | |
|---|---|---|---|
| Titanium Dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium Dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |
| Polyoxypropylene Triol | Dermal | Rat | LD50 > 2,000 mg/kg |
| Polyoxypropylene Triol | Ingestion | Rat | LD50 > 2,500 mg/kg |
| Dibutyltin Dilaurate | Dermal | Rat | LD50 > 2,000 mg/kg |
| Dibutyltin Dilaurate | Ingestion | Rat | LD50 1,290 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Castor Oil | Human | Minimal irritation |
| Polypropylene Glycol | Rabbit | No significant irritation |
| Amorphous Silica | Rabbit | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |
| Polyoxypropylene Triol | Rabbit | No significant irritation |
| Dibutyltin Dilaurate | Rabbit | Corrosive |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Castor Oil | Rabbit | Mild irritant |
| Polypropylene Glycol | Rabbit | No significant irritation |
| Amorphous Silica | Rabbit | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |
| Polyoxypropylene Triol | Rabbit | Mild irritant |
| Dibutyltin Dilaurate | Rabbit | Corrosive |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Castor Oil | Human | Some positive data exist, but the data are not sufficient for classification |
| Amorphous Silica | Human and animal | Not sensitizing |
| Titanium Dioxide | Human and animal | Not sensitizing |
| Dibutyltin Dilaurate | Guinea pig | Sensitizing |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Castor Oil | In Vitro | Not mutagenic |
| Castor Oil | In vivo | Not mutagenic |
| Amorphous Silica | In Vitro | Not mutagenic |
| Titanium Dioxide | In Vitro | Not mutagenic |
| Titanium Dioxide | In vivo | Not mutagenic |
| Dibutyltin Dilaurate | In vivo | Some positive data exist, but the data are not sufficient for classification |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Amorphous Silica | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Titanium Dioxide | Ingestion | Multiple animal species | Not carcinogenic |

| | | | |
|---|---|---|---|
| Titanium Dioxide | Inhalation | Rat | Carcinogenic |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Castor Oil | Ingestion | Not toxic to female reproduction | Rat | NOAEL 4,800 mg/kg/day | 13 weeks |
| Castor Oil | Ingestion | Not toxic to male reproduction | Rat | NOAEL 4,800 mg/kg/day | 13 weeks |
| Amorphous Silica | Ingestion | Not toxic to female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| Dibutyltin Dilaurate | Ingestion | Toxic to female reproduction | Rat | NOAEL 2 mg/kg/day | premating into lactation |
| Dibutyltin Dilaurate | Ingestion | Toxic to development | Rat | NOAEL 2.5 mg/kg/day | during gestation |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Castor Oil | Ingestion | heart \| hematopoietic system \| liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 4,800 mg/kg/day | 13 weeks |
| Castor Oil | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 13,000 mg/kg/day | 13 weeks |
| Amorphous Silica | Inhalation | respiratory system \| silicosis | All data are negative | Human | NOAEL Not available | occupational exposure |
| Titanium Dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.010 mg/l | 2 years |
| Titanium Dioxide | Inhalation | pulmonary fibrosis | All data are negative | Human | NOAEL Not available | occupational exposure |
| Dibutyltin Dilaurate | Ingestion | liver | Causes damage to organs through prolonged or repeated exposure | Rat | NOAEL 2 mg/kg/day | 2 weeks |
| Dibutyltin Dilaurate | Ingestion | immune system | Causes damage to organs through prolonged or repeated exposure | Rat | NOAEL 0.3 mg/kg/day | 28 days |

**Aspiration Hazard**
For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 11-2404-9 | **Version Number:** | 18.01 |
| **Issue Date:** | 12/09/14 | **Supercedes Date:** | 10/02/14 |

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 11-2405-6 | **Version Number:** | 18.00 |
| **Issue Date:** | 10/02/14 | **Supercedes Date:** | 08/15/07 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Scotch-Weld™ Urethane Adhesive DP605NS Off-White, (Part A)

**1.2. Recommended use and restrictions on use**

**Recommended use**
Structural adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure:
respiratory system |

**Precautionary Statements**

**Prevention:**
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Get medical advice/attention if you feel unwell.

**Storage:**
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

25% of the mixture consists of ingredients of unknown acute inhalation toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Higher Oligomers of MDI | 9016-87-9 | 20 - 40 Trade Secret * |

| | | |
|---|---|---|
| Diphenylmethane Diisocyanate | 26447-40-5 | 20 - 40 Trade Secret * |
| Polypropylene Glycols | 25322-69-4 | 10 - 25 Trade Secret * |
| Amorphous Silica | 67762-90-7 | 1 - 10 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**
None inherent in this product.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Cyanide | During Combustion |
| Oxides of Nitrogen | During Combustion |

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation

to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from amines.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Polypropylene Glycols | 25322-69-4 | AIHA | TWA(as aerosol):10 mg/m3 | |
| FREE ISOCYANATES | 26447-40-5 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |
| Amorphous Silica | 67762-90-7 | CMRG | CEIL:5 mg/m3 | |
| SILICA, AMORPHOUS | 67762-90-7 | OSHA | TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft. | |
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | ACGIH | TWA:0.005 ppm | |
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | OSHA | CEIL:0.2 mg/m3(0.02 ppm) | |
| FREE ISOCYANATES | 9016-87-9 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Neoprene
Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Specific Physical Form:** | Paste |
| **Odor, Color, Grade:** | Brown, isocyanate odor. |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *Not Applicable* |
| **Boiling Point** | >=178 ºC |
| **Flash Point** | >=352 ºF [*Test Method:* Closed Cup] |
| **Evaporation rate** | *Not Applicable* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *Not Applicable* |
| **Flammable Limits(UEL)** | *Not Applicable* |
| **Vapor Pressure** | *Not Applicable* |
| **Vapor Density** | *Not Applicable* |
| **Density** | 1.17 g/ml |
| **Specific Gravity** | 1.17 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Negligible |
| **Solubility- non-water** | *No Data Available* |

| | |
|---|---|
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 10,000 centipoise [@ 73.4 ºF ] |
| **Hazardous Air Pollutants** | 0 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* when used as intended with Part B] |
| **VOC Less H2O & Exempt Solvents** | 0 g/l [*Test Method:* calculated SCAQMD rule 443.1] [*Details:* as supplied] |
| **VOC Less H2O & Exempt Solvents** | 0 % [*Test Method:* calculated per CARB title 2] [*Details:* when used as intended with Part B] |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

**10.5. Incompatible materials**
Amines
Alcohols
Water
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Harmful if inhaled.
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

**Skin Contact:**
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Target Organ Effects:**

**Prolonged or repeated exposure may cause:**
Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

**Additional Information:**
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE 10 - 20 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| Higher Oligomers of MDI | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Higher Oligomers of MDI | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Higher Oligomers of MDI | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| Higher Oligomers of MDI | Ingestion | Rat | LD50 31,600 mg/kg |
| Diphenylmethane Diisocyanate | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Diphenylmethane Diisocyanate | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Diphenylmethane Diisocyanate | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| Diphenylmethane Diisocyanate | Ingestion | Rat | LD50 31,600 mg/kg |
| Polypropylene Glycols | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Polypropylene Glycols | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Amorphous Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Amorphous Silica | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Amorphous Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Higher Oligomers of MDI | official classification | Irritant |
| Diphenylmethane Diisocyanate | official classification | Irritant |
| Polypropylene Glycols | Rabbit | No significant irritation |
| Amorphous Silica | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Higher Oligomers of MDI | official classification | Severe irritant |
| Diphenylmethane Diisocyanate | official classification | Severe irritant |
| Polypropylene Glycols | Rabbit | No significant irritation |
| Amorphous Silica | Rabbit | No significant irritation |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Higher Oligomers of MDI | official classification | Sensitizing |
| Diphenylmethane Diisocyanate | official classification | Sensitizing |
| Amorphous Silica | Human and animal | Not sensitizing |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| Higher Oligomers of MDI | Human | Sensitizing |
| Diphenylmethane Diisocyanate | Human | Sensitizing |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Higher Oligomers of MDI | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Diphenylmethane Diisocyanate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Amorphous Silica | In Vitro | Not mutagenic |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Higher Oligomers of MDI | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Diphenylmethane Diisocyanate | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Amorphous Silica | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Higher Oligomers of MDI | Inhalation | Some positive developmental data exist, | Rat | NOAEL | during |

| | | | | | |
|---|---|---|---|---|---|
| | | but the data are not sufficient for classification | | 0.004 mg/l | organogenesis |
| Diphenylmethane Diisocyanate | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.004 mg/l | during organogenesis |
| Amorphous Silica | Ingestion | Not toxic to female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Higher Oligomers of MDI | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| Diphenylmethane Diisocyanate | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Higher Oligomers of MDI | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| Diphenylmethane Diisocyanate | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| Amorphous Silica | Inhalation | respiratory system \| silicosis | All data are negative | Human | NOAEL Not available | occupational exposure |

**Aspiration Hazard**

| Name | Value |
|---|---|

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative,

incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Higher Oligomers of MDI | 9016-87-9 | 20 - 40 |
| Higher Oligomers of MDI (Benzene, 1,1'-methylenebis[4-isocyanato-) | 9016-87-9 | 20 - 40 |
| Higher Oligomers of MDI (DIISOCYANATES (CERTAIN CHEMICALS ONLY)) | 9016-87-9 | 20 - 40 |

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar

emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 11-2405-6 | **Version Number:** | 18.00 |
| **Issue Date:** | 10/02/14 | **Supercedes Date:** | 08/15/07 |

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**3M USA SDSs are available at www.3M.com**

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **Battery Cleaner**

**Other means of identification**

**Product code** 03176

**Recommended use** Battery cleaner

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** CRC Industries, Inc.

**Address** 885 Louis Dr.
Warminster, PA 18974 US

**Telephone**

**General Information** 215-674-4300

**Technical Assistance** 800-521-3168

**Customer Service** 800-272-4620

**24-Hour Emergency (CHEMTREC)** 800-424-9300 (US)
703-527-3887 (International)

**Website** www.crcindustries.com

## 2. Hazard(s) identification

**Physical hazards** Gases under pressure — Liquefied gas

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Warning

**Hazard statement** Contains gas under pressure; may explode if heated.

**Precautionary statement**

**Prevention** Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying.

**Response** Wash hands after handling.

**Storage** Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information**

Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Water | | 7732-18-5 | 80 - 90 |
| Liquefied Petroleum Gas | | 68476-86-8 | 5 - 10 |
| 2-Butoxyethanol | | 111-76-2 | 1 - 3 |

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

| | |
|---|---|
| **Inhalation** | If symptoms develop move victim to fresh air. Get medical attention if symptoms persist. |
| **Skin contact** | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| **Eye contact** | Rinse with water. Get medical attention if irritation develops and persists. |
| **Ingestion** | Call a POISON CENTER or doctor/physician. |
| **Most important symptoms/effects, acute and delayed** | Direct contact with eyes may cause temporary irritation. |
| **Indication of immediate medical attention and special treatment needed** | Provide general supportive measures and treat symptomatically. |
| **General information** | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Water. |
| **Unsuitable extinguishing media** | None known. |
| **Specific hazards arising from the chemical** | Contents under pressure. |
| **Special protective equipment and precautions for firefighters** | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| **Fire-fighting equipment/instructions** | In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |

## 6. Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| **Methods and materials for containment and cleaning up** | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |

## 7. Handling and storage

| | |
|---|---|
| **Precautions for safe handling** | Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Do not get this material in contact with skin. Avoid prolonged exposure. Wear appropriate personal protective equipment. Use only in well-ventilated areas. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Observe good industrial hygiene practices. For product usage instructions, please see the product label. |
| **Conditions for safe storage, including any incompatibilities** | Level 1 Aerosol.<br><br>Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | PEL | 240 mg/m3 |
| | | 50 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 24 mg/m3 |
| | | 5 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (BAA), with hydrolysis | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Exposure guidelines**

**US - California OELs: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

2-Butoxyethanol (CAS 111-76-2) Skin designation applies.

**US - Tennesse OELs: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US NIOSH Pocket Guide to Chemical Hazards: Skin designation**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear protective gloves such as nitrile.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Form** Aerosol.

**Color** Clear.

**Odor** Odorless.

**Odor threshold** Not available.

**pH** 8.5

**Melting point/freezing point** -103 °F (-75 °C) estimated

| | |
|---|---|
| **Initial boiling point and boiling range** | 212 °F (100 °C) estimated |
| **Flash point** | None (Closed Cup) |
| **Evaporation rate** | Slow. |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | 1.3 % estimated |
| **Flammability limit - upper (%)** | 10.6 % estimated |
| **Vapor pressure** | 268.5 hPa estimated |
| **Vapor density** | > 1 (air = 1) |
| **Relative density** | 1.04 |
| **Solubility (water)** | Soluble. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | 446 °F (230 °C) estimated |
| **Decomposition temperature** | Not available. |
| **Viscosity (kinematic)** | Not available. |
| **Percent volatile** | 94.2 % estimated |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Carbon oxides. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | Expected to be a low ingestion hazard. |
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Skin contact** | 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. |
| **Eye contact** | Direct contact with eyes may cause temporary irritation. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Direct contact with eyes may cause temporary irritation. |

**Information on toxicological effects**

**Acute toxicity** Not available.

| Product | Species | Test Results |
|---|---|---|
| Battery Cleaner | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 7723.0923 mg/kg estimated |
| *Inhalation* | | |
| LC50 | Rat | 15797.2334 mg/l, 4 hours estimated |
| | | 15797.2334 ppm, 4 hours estimated |
| *Oral* | | |
| LD50 | Rat | 16499.332 mg/kg estimated |

| Product | Species | Test Results |
|---|---|---|
| **Chronic** | | |
| *Inhalation* | | |
| LC50 | Rat | 83.1988 mg/l estimated |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

2-Butoxyethanol (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | | Species | Test Results |
|---|---|---|---|
| Battery Cleaner | | | |
| *Acute* | | | |
| Crustacea | EC50 | Daphnia | 54412.6953 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 53543.8477 mg/l, 96 hours estimated |

| Components | | Species | Test Results |
|---|---|---|---|
| 2-Butoxyethanol (CAS 111-76-2) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 1550 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | > 1000 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

2-Butoxyethanol 0.81, log Pow

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal of waste from residues / unused products** The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazardous waste code** Not regulated.

| | |
|---|---|
| **Contaminated packaging** | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Label(s)** | 2.2 |
| **Packing group** | Not applicable. |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Packaging exceptions** | 306 |
| **Packaging non bulk** | None |
| **Packaging bulk** | None |

**IATA**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable, limited quantity |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | No. |
| **ERG Code** | 10L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Other information** | |
| **Passenger and cargo aircraft** | Allowed. |
| **Cargo aircraft only** | Allowed. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS, LIMITED QUANTITY |
| **Transport hazard class(es)** | |
| **Class** | 2 |
| **Subsidiary risk** | - |
| **Packing group** | Not applicable. |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | Not available. |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**SARA 304 Emergency release notification**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

2-Butoxyethanol (CAS 111-76-2)

**CERCLA Hazardous Substance List (40 CFR 302.4)**

2-Butoxyethanol (CAS 111-76-2)

**CERCLA Hazardous Substances: Reportable quantity**

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Section 311/312 Hazard categories**
Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**US state regulations**

**US. New Jersey RTK - Substances: Listed substance**

2-Butoxyethanol (CAS 111-76-2)

**US. Massachusetts RTK - Substance List**

2-Butoxyethanol (CAS 111-76-2)

**US. Pennsylvania RTK - Hazardous Substances**

2-Butoxyethanol (CAS 111-76-2)

**US. Rhode Island RTK**

2-Butoxyethanol (CAS 111-76-2)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

1,4-Dioxane (CAS 123-91-1) Listed: January 1, 1988
Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

**Volatile organic compounds (VOC) regulations**

**EPA**

**VOC content (40 CFR 51.100(s))** 7.9 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

**State**

**Consumer products** Not regulated

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

| | |
|---|---|
| **Issue date** | 09-18-2013 |
| **Prepared by** | Allison Cho |
| **Version #** | 01 |
| **Further information** | CRC# 530B |
| **HMIS® ratings** | Health: 1*<br>Flammability: 0<br>Physical hazard: 0<br>Personal protection: B |
| **NFPA ratings** | Health: 1<br>Flammability: 0<br>Instability: 0 |
| **Disclaimer** | The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries. |

MATERIAL SAFETY DATA SHEET
SLIDE PRODUCTS, INC.
430 S. WHEELING ROAD
WHEELING, IL 60090

PRODUCT NAME: BULK SLIDE EPOXEASE MOLD RELEASE

EMERGENCY TELEPHONE: 800-535-5053
INFORMATION TELEPHONE: 847-541-7220
FAX NUMBER: 847-541-7986
PREPARED BY: JIM ARMSTRONG

REVISION DATE: SEPT. 1, 2012
PRODUCT NUMBER: 406HBBULK
D.U.N.S. NUMBER: 00-299-4168

**THIS MSDS IS APPLICABLE TO: 40601HB, 40605HB and 40655HB UNITS**

## SECTION I. IDENTIFICATION

CHEMICAL NAME: SYNTHETIC WAX DISPERSION
CHEMICAL FAMILY: LOW-MOL. WT. POLYETHYLENE
FORMULA: 40601HB, 40605HB, and 40655HB
SYNONYMS: SLIDE EPOXEASE MR
CHEMICAL ABSTRACT REGISTRY NUMBER: N/A, MIXTURE
H.M.I.S. RATING: 2, 1, 0, B
**SHIPPING INFORMATION:**
DOT HAZARD CLASSIFICATION: ORM-D
DOT SHIPPING NAME: CONSUMER COMMODITY
IDENTIFICATION NUMBER: NONE
PACKING GROUP: N/A

## SECTION II. PHYSICAL DATA

BOILING POINT: 103-105 DEGREES F.
FREEZING POINT: <-38 DEGREES F.
SPECIFIC GRAVITY (H2O = 1): 1.19
WEIGHT PER GALLON @ 60 F.: 9.99
VAPOR PRESSURE @ 70 F. (MM HG): 59
VAPOR DENSITY (AIR = 1): >1
SOLUBILITY IN WATER, % BY WEIGHT: NIL
PERCENT VOLATILE BY WEIGHT: 92%
EVAPORATION RATE (MINUTES): >1.3
APPEARANCE AND ODOR: TAN LIQUID - MILD HALOGENATED HC ODOR

## SECTION III. HAZARDOUS INGREDIENTS

| MATERIAL: | APPROX. WT.%: | CAS NUMBER: | PEL(OSHA): |
|---|---|---|---|
| ALIPHATIC HYDROCARBONS | 20 | 68513-03-1* | 130 PPM |
| NON-HAZARD INGREDIENTS | 8 | MIXTURE | N/A |
| N-PROPYL BROMIDE | 72 | 106-94-5 | 100 PPM* |

*OSHA PEL AND ACGIH TLV NOT ESTABLISHED. SOLVENT MANUFACTURER RECOMMENDS A WORKPLACE EXPOSURE GUIDELINE OF 100 PPM 8 HOUR. TWA BASED ON THE SCIENTIFIC ASSESSMENT OF SOLVENT MIXTURE AND OTHER EXISTING TOXICOLOGICAL DATA.

**SECTION IV. FIRE AND EXPLOSION HAZARD DATA**

FLAMMABLE LIMITS IN AIR: LEL: 8.0 UEL: 10.5 (VOLUME %)
FLASH POINT: NONE
SPECIAL FIRE FIGHTING PROCEDURES: USE SELF-CONTAINED BREATHING APPARATUS
UNUSUAL FIRE & EXPLOSION HAZARDS: CONCENTRATE VAPORS FORM HCI, HF, AND TRACES OF PHOSGENE UPON PYROLYSIS

**SECTION V. REACTIVITY DATA**

STABILITY: STABLE
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION BY-PRODUCTS: SEE SECTION IV
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: OPEN FLAMES AND HOT GLOWING OBJECTS

**SECTION VI. HEALTH HAZARD DATE (ALSO SEE SECTIONS X & XI)**

THRESHOLD LIMIT VALUE: 100 PPM

- **EFFECTS OF OVEREXPOSURE ***

INGESTION (SWALLOWING): GASTROINTESTINAL IRRITATION, NAUSE, VOMITING
INHALATION: EXCESSIVE INHALATION CAN CAUSE DIZZINESS, WEAKNESS, HEADACHE OR POSSIBLE UNCONSCIOUSNESS..
SKIN CONTACT: PROLONGED CONTACT CAUSES MODERATE IRRITATION, DE-FATTING
EYE CONTACT: IRRITATION, REDNESS, TEARING, BLURRED VISION

- **EMERGENCY AND FIRST AID PROCEDURES ***

SKIN: WASH WITH SOAP AND WATER, APPLY HANDCREAM
INHALATION: REMOVE TO FRESH-AIR LOCATION AWAY FROM EXPOSURE. ADMINSTER OXYGEN IF NECESSARY. DO NOT GIVE STIMULANTS. EPINEPHRINE OR EPHEDRINE MAY EFFECT HEART ADVERSELY.
EYES: FLUSH WITH LARGE AMOUNTS COLD CLEAN WATER UNTIL IRRITATION SUBSIDES.
INGESTION: DO NOT INDUCE VOMITING. CALL PHYSICIAN IMMEDIATELY.

**SECTION VII. SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: DIKE SPILL, REMOVE WITH ABSORBENT TO LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
WASTE DISPOSAL METHOD: STANDARD FOR SOLVENT DRUMS. SEND TO LICENSED RECLAIMER OR APPROVED LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

**SECTION VIII. SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION (SPECIFY TYPE): NOT NEEDED WITH ADEQUATE VENTILATION
VENTILATION: RECOMMEND CONTROL OF VAPORS TO SUGGESTED GUIDE
PROTECTIVE GLOVES: RECOMMENDED BUT NOT REQUIRED
EYE PROTECTION: SAFETY GLASSES WITH SIDE SHIELDS ARE SUGGESTED
OTHER PROTECTIVE EQUIPMENT: AS REQUIRED BY YOUR COMPANY

**SECTION IX. SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT EAT, DRINK OR SMOKE IN WORK AREA.
OTHER PRECAUTIONS: STORE INDOORS IN COOL DRY LOCATION. VAPORS ARE HEAVIER THAN AIR AND MAY COLLECT IN LOW AREAS.

DO NOT ENTER WITHOUT ADEQUATE BREATHING APPARATUS AND AN OBSERVER.

**SECTION X. EFFECTS OF PROLONGED EXPOSURE**

NONE KNOWN

**SECTION XI. CARCINOGENIC HAZARD**

NONE KNOWN

**SECTION XII. REPORTING REQUIREMENTS**

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRED TO BE REPORTED UNDER SARA TITLE III, SECTION 313: NONE

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESS OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE. THE INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET IS BELIEVED TO BE CORRECT AS OF THIS DATE. THE REGULATIONS PROMULGATED BY OSHA FOR HAZARD COMMUNICATION, 29 CFR 1910.1200, AS WELL AS SEVERAL STATE AND LOCAL LAWS AND REGULATIONS, HAVE BEEN CONSULTED IN PREPARING THIS M.S.D.S.

http://www.slideproducts.com/mold.htm

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **Oatey ABS Extra Special Black Cement**

**Other means of identification**

**Product code** 1301E

**Synonyms** Part Numbers: 30916(TV), 30917(TV), 30918(TV), 30919(TV), 30920

**Recommended use** Joining ABS Pipes

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** Oatey Co.

**Address** 4700 West 160th St.
Cleveland, OH 44135

**Telephone** 216-267-7100

**E-mail** info@oatey.com

**Transport Emergency** Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

**Emergency First Aid** 1-877-740-5015

**Contact person** MSDS Coordinator

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Flammable liquids | Category 2 |
| **Health hazards** | Serious eye damage/eye irritation | Category 2A |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Aspiration hazard | Category 1 |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Danger

**Hazard statement** Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statement**

**Prevention** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

**Response** Do NOT induce vomiting. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.

**Storage** Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

**Supplemental information**

Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| Methyl ethyl ketone | 78-93-3 | 40-60 |
| ABS Resin | 9003-56-9 | 20-30 |
| Acetone | 67-64-1 | 10-20 |
| Other components below reportable levels | | 2.04 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact** Take off immediately all contaminated clothing. Wash off with soap and water.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion** Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

**Most important symptoms/effects, acute and delayed** Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information** Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

## 5. Fire-fighting measures

**Suitable extinguishing media** Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media** Water. Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards** Highly flammable liquid and vapor.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 |
| | | 1000 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | PEL | 590 mg/m3 |
| | | 200 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | STEL | 750 ppm |
| | TWA | 500 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 300 ppm |
| | TWA | 200 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 |
| | | 250 ppm |
| Methyl ethyl ketone (CAS 78-93-3) | STEL | 885 mg/m3 |
| | | 300 ppm |
| | TWA | 590 mg/m3 |
| | | 200 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Methyl ethyl ketone (CAS 78-93-3) | 2 mg/l | MEK | Urine | * |

* - For sampling details, please see the source document.

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear protective gloves.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Form** Opaque liquid.

**Color** Black.

**Odor** Solvent.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** 151 °F (66.11 °C)

**Flash point** 14.0 - 23.0 °F (-10.0 - -5.0 °C)

**Evaporation rate** 5.5 - 8

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** 1.8

**Flammability limit - upper (%)** 11.8

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 145 mm Hg @ 20 C

**Vapor density** 2.5

**Relative density** 0.89 +/- 0.02

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** 500 - 1500 cP

| | |
|---|---|
| **Viscosity temperature** | 77 °F (25 °C) |
| **Other information** | |
| **Bulk density** | 7.4 lbs/gal |
| **VOC (Weight %)** | 315 g/l SQACMD 1168/M316A |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May be fatal if swallowed and enters airways. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause irritation to the respiratory system. |
| **Skin contact** | No adverse effects due to skin contact are expected. |
| **Eye contact** | Causes serious eye irritation. |
| **Ingestion** | May be fatal if swallowed and enters airways. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |

**Information on toxicological effects**

**Acute toxicity** May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

| Components | Species | Test Results |
|---|---|---|
| Acetone (CAS 67-64-1) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 20 ml/kg |
| *Inhalation* | | |
| LC50 | Rat | 50 mg/l, 8 Hours |
| *Oral* | | |
| LD50 | Rat | 5800 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|---|---|
| **Skin corrosion/irritation** | Prolonged skin contact may cause temporary irritation. |
| **Serious eye damage/eye irritation** | Causes serious eye irritation. |
| **Respiratory or skin sensitization** | |
| **Respiratory sensitization** | Not available. |
| **Skin sensitization** | This product is not expected to cause skin sensitization. |
| **Germ cell mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Carcinogenicity** | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

| | |
|---|---|
| **Reproductive toxicity** | This product is not expected to cause reproductive or developmental effects. |
| **Specific target organ toxicity - single exposure** | Respiratory tract irritation. Narcotic effects. |

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| Acetone (CAS 67-64-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | -0.24 |
| Methyl ethyl ketone (CAS 78-93-3) | 0.29 |

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

**UN number** UN1133
**UN proper shipping name** Adhesives
**Transport hazard class(es)**
**Class** 3
**Subsidiary risk** -
**Label(s)** 3
**Packing group** II
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
**Special provisions** T11, TP1, TP8, TP27
**Packaging exceptions** 150
**Packaging non bulk** 201
**Packaging bulk** 243

**IATA**

**UN number** UN1133
**UN proper shipping name** Adhesives
**Transport hazard class(es)**
**Class** 3
**Subsidiary risk** -

| | |
|---|---|
| **Packing group** | II |
| **Environmental hazards** | No. |
| **ERG Code** | 3L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1133 |
| **UN proper shipping name** | ADHESIVES |
| **Transport hazard class(es)** | |
| **Class** | 3 |
| **Subsidiary risk** | - |
| **Packing group** | II |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-E, S-D |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

| | |
|---|---|
| Acetone (CAS 67-64-1) | LISTED |
| Methyl ethyl ketone (CAS 78-93-3) | LISTED |

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |
| Methyl ethyl ketone (CAS 78-93-3) | 6714 |

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 35 %WV |
| Methyl ethyl ketone (CAS 78-93-3) | 35 %WV |

**DEA Exempt Chemical Mixtures Code Number**

| | |
|---|---|
| Acetone (CAS 67-64-1) | 6532 |

Methyl ethyl ketone (CAS 78-93-3) 6714

**US state regulations**

**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. New Jersey Worker and Community Right-to-Know Act**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. Rhode Island RTK**

Acetone (CAS 67-64-1)
Methyl ethyl ketone (CAS 78-93-3)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 27-May-2015

**Revision date** -

**Version #** 01

**HMIS® ratings** Health: 2
Flammability: 3
Physical hazard: 0

**NFPA ratings**


**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available.

EASTMAN



# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

**Product name:** Eastman Spectar(TM) Copolyester 14471 M0112, Clear Frosted

**Product No.:** EAN 978611. 14471 M0112, 50058741, 50114239, 50140429, E0778517

**Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses:** Plastics

**Uses advised against:** None known.

**Details of the supplier of the safety data sheet**

**Manufacturer / Supplier**

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

**Emergency telephone number:**

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

## SECTION 2: Hazards identification

**Hazard classification:**

**OSHA Specified Hazards:**

| | |
|---|---|
| Combustible dust | If converted to small particles during further processing, handling or by other means may form combustible dust concentrations in air. |

**Warning label items including precautionary statement:**

| | |
|---|---|
| **Signal words:** | WARNING! |
| **Hazard Statement(s):** | If converted to small particles during further processing, handling or by other means may form combustible dust concentrations in air. |

**Precautionary statement:**

| | |
|---|---|
| **Disposal:** | P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |

**Hazard(s) not otherwise classified (HNOC):** None known.

## SECTION 3: Composition/information on ingredients

**Substances / Mixtures**

**General information:**

| Chemical name | Concentration | Additional identification | Notes |
|---|---|---|---|
| copolyester | >40% | CAS-No.: proprietary | |
| modifiers/additives | <60% | CAS-No.: proprietary | |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
This substance has w orkplace exposure limit(s).

## SECTION 4: First aid measures

**Description of first aid measures**

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Eye contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist. If molten material contacts the eye, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin contact:** Wash with soap and water. Get medical attention if symptoms occur. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Get medical attention.

**Ingestion:** Seek medical advice.

**Most important symptoms and effects, both acute and delayed:** Burns should be treated as thermal burns. The material will come off as healing occurs; therefore, immediate removal from the skin is not necessary.

**Indication of any immediate medical attention and special treatment needed**

**Hazards:** Contact with molten substance/product may cause severe burns to skin and eyes.

**Treatment:** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards:** Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures.

**Extinguishing media**

**Suitable extinguishing media:** Water spray. Dry chemical. Carbon Dioxide.

**Unsuitable extinguishing media:** None known.

**Special hazards arising from the substance or mixture:** Powdered material may form explosive dust-air mixtures.

**Advice for firefighters**

**Special fire fighting procedures:** Minimize dust generation and accumulation.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Wear appropriate personal protective equipment.

**Environmental precautions:** Not regarded as dangerous for the environment.

**Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste.

**Notification Procedures:** In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

## SECTION 7: Handling and storage:

**Precautions for safe handling:** Avoid contact with molten material. Minimize dust generation and accumulation.

**Conditions for safe storage, including any incompatibilities:** Keep container closed.

**Specific end use(s):** Plastics.

## SECTION 8: Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

**Exposure controls**

**Appropriate engineering controls:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **General information:** | Eye bath. Washing facilities. |
| **Eye/face protection:** | It is a good industrial hygiene practice to minimize eye contact. Wear a face shield when working with molten material. |
| **Skin protection** | |
| **Hand protection:** | It is a good industrial hygiene practice to minimize skin contact. When material is heated, wear gloves to protect against thermal burns. |
| **Other:** | No data available. |
| **Respiratory Protection:** | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information. |
| **Hygiene measures:** | Observe good industrial hygiene practices. |
| **Environmental Controls:** | No data available. |

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | |
| **Physical State:** | Solid |
| **Form:** | Pellet |
| **Color:** | varies with formulation |
| **Odor:** | Slight |
| **Odor Threshold:** | Not determined. |
| **pH:** | Not applicable |
| **Softening Point:** | varies with formulation |
| **Boiling Point:** | No data available. |
| **Flash Point:** | not applicable, combustible solid |
| **Evaporation Rate:** | Not determined. |
| **Flammability (solid, gas):** | No data available. |
| **Flammability Limit - Upper (%)–:** | No data available. |
| **Flammability Limit - Lower (%)–:** | No data available. |
| **Vapor pressure:** | Not determined. |
| **Vapor density (air=1):** | No data available. |
| **Specific Gravity:** | > 1 (estimated) |
| **Solubility(ies)** | |
| **Solubility in Water:** | Negligible |
| **Solubility (other):** | No data available. |
| **Partition coefficient (n-octanol/water):** | No data available. |

| | |
|---|---|
| **Autoignition Temperature:** | No data available. |
| **Decomposition Temperature:** | Thermal stability not tested. Low stability hazard expected at normal operating temperatures. |
| **Dynamic Viscosity:** | No data available. |
| **Kinematic viscosity:** | Not determined. |
| **Explosive properties:** | No data available. |
| **Oxidizing properties:** | No data available. |

## SECTION 10: Stability and reactivity

| | |
|---|---|
| **Reactivity:** | None known. |
| **Chemical stability:** | Stable |
| **Possibility of hazardous reactions:** | None known. |
| **Conditions to avoid:** | None at ambient temperatures. |
| **Incompatible materials:** | Strong oxidizing agents. |
| **Hazardous decomposition products:** | Carbon Monoxide. Carbon Dioxide. |

## SECTION 11: Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation:** | None known. |
| **Ingestion:** | None known. |
| **Skin contact:** | Molten material will produce thermal burns. |
| **Eye contact:** | Molten material will produce thermal burns. |

**Information on toxicological effects**

**Acute Toxicity**

**Oral**

**Product:** No data available.

**Specified substance(s)**

| | |
|---|---|
| copolyester | Oral LD-50: (Rat): > 3,200 mg/kg<br>Oral LD-50: (Mouse): > 3,200 mg/kg |
| modifiers/additives | No data available. |

**Dermal**

**Product:** No data available.

**Specified substance(s)**

| | |
|---|---|
| copolyester | Dermal LD-50: (Guinea Pig): > 1,000 mg/kg |
| modifiers/additives | No data available. |

**Inhalation**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Repeated dose toxicity**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Skin corrosion/irritation:**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | (Guinea Pig, 10 d): Slight |
| modifiers/additives | No data available. |

**Serious eye damage/eye irritation:**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | (Rabbit, 24 h): Slight |
| modifiers/additives | No data available. |

**Respiratory or skin sensitization:**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | (Guinea Pig) - non-sensitizing |
| modifiers/additives | No data available. |

**Mutagenicity**

**In vitro**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**In vivo**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Carcinogenicity**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Reproductive toxicity**

**Product:** No data available.

**Specified substance(s)**

copolyester: No data available.

modifiers/additives: No data available.

**Specific target organ toxicity - single exposure**

**Product:** No data available.

**Specified substance(s)**

copolyester: No data available.

modifiers/additives: No data available.

**Specific target organ toxicity - repeated exposure**

**Product:** No data available.

**Specified substance(s)**

copolyester: No data available.

modifiers/additives: No data available.

**Aspiration hazard**

**Product:** No data available.

**Specified substance(s)**

copolyester: No data available.

modifiers/additives: No data available.

**Other adverse effects:** No data available.

## SECTION 12: Ecological information

**Toxicity**

**Acute toxicity**

**Fish**

**Product:** No data available.

**Specified substance(s)**

copolyester: LC-50 (Fathead Minnow, 96 h): > 100 mg/l (highest concentration tested)

modifiers/additives: No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Specified substance(s)**

copolyester: LC-50 (daphnid, 96 h): > 100 mg/l (highest concentration tested)
LC-50 (snail, 96 h): > 100 mg/l (highest concentration tested)
LC-50 (flatworm, 96 h): > 100 mg/l (highest concentration tested)

modifiers/additives: No data available.

**Chronic Toxicity**

**Fish**

**Product:** No data available.

**Specified substance(s)**

copolyester: No data available.

| | |
|---|---|
| modifiers/additives | No data available. |

**Aquatic invertebrates**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Toxicity to Aquatic Plants**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Persistence and degradability**

**Biodegradation**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Biological Oxygen Demand:**

| | |
|---|---|
| **Product** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Chemical Oxygen Demand:**

| | |
|---|---|
| **Product** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**BOD/COD ratio**

| | |
|---|---|
| **Product** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Bioaccumulative potential**

| | |
|---|---|
| **Product:** | No data available. |
| **Specified substance(s)** | |
| copolyester | No data available. |
| modifiers/additives | No data available. |

**Mobility in soil:** No data available.

**Known or predicted distribution to environmental compartments**

| | |
|---|---|
| copolyester | No data available. |
| modifiers/additives | No data available. |

| | |
|---|---|
| **Results of PBT and vPvB assessment:** | No data available. |
| copolyester | No data available. |
| modifiers/additives | No data available. |
| **Other adverse effects:** | No data available. |

## SECTION 13: Disposal considerations

**Waste treatment methods**

**General information:** No data available.

**Disposal methods:** Dispose of waste and residues in accordance with local authority requirements. Incinerate.

## SECTION 14: Transport information

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

**DOT**

Class not regulated

**IMDG - International Maritime Dangerous Goods Code**

Class not regulated

**IATA**

Class not regulated

## SECTION 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**
**WHMIS (Canada) Status:** noncontrolled

**SARA 311-312 Hazard Classification(s):**

fire hazard

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical List**

NONE

**OSHA:** hazardous

**TSCA (US Toxic Substances Control Act):** All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

**DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act):** All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

**AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme):** One or more components of this product are not listed on AICS.In Australia, its use is restricted to research and development purposes only.

**MITI (Japanese Handbook of Existing and New Chemical Substances):** All components of this product are listed in the Handbook or have been approved in Japan by new substance notification.

**ECL (Korean Toxic Substances Control Act):** All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

## SECTION 16: Other information

**HMIS® Hazard Ratings:** Health - 1, Flammability - 1, Chemical Reactivity - 0

*HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.*

| | |
|---|---|
| **Revision Information:** | Not relevant. |
| **Key literature references and sources for data:** | No data available. |
| **Training information:** | No data available. |
| **Issue date:** | 11/02/2014 |
| **SDS No.:** | |
| **Disclaimer:** | This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. |

LOCTITE
1001 Trout Brook Crossing
Rocky Hill, CT 06067-3910
Telephone: (860) 571-5100
FAX: (860) 571-5465

# Product Description Sheet
# Speedbonder® Product H3300
**formerly Hysol® H3300**

**Industrial Products, October 2002**

## Description
Loctite® Speedbonder® H3300 is a highly thixotropic, two component, room temperature curing, 1:1 mix ratio, methacrylate adhesive system. H3300 is formulated to provide fixturing strength within 6 - 12 minutes. This adhesive forms resilient bonds and maintains its strength over a wide range of temperatures. H3300 is suitable for bonding a variety of substrates with a minimum of surface preparation.

Recommended Substrates: PVC, polycarbonate, acrylic, ABS, stainless steel and FRP

## Features
Non-sagging gaps filled to .375 inch
Superior impact and peel strength
Little or no surface preparation
Offers excellent tolerance to off-ratio mixing
Rapid room temperature cure
100% reactive
Excellent environmental resistance

| Typical Uncured Properties | Part A | Part B | Mixed |
|---|---|---|---|
| Open Time @ 70°F, mins | -- | -- | 4 to 6 |
| Fixture Time @ 70°F, mins | -- | -- | 6 to 12 |
| Color | Pale Milky White | Tan to Yellow | Light Yellow |
| Viscosity, cP | 85,000 to 125,000 | 80,000 to 160,000 | -- |
| Specific Gravity | 1.03 | 1.05 | 1.04 |
| Weight per Gallon, Lbs | 8.58 | 8.75 | 8.67 |
| Mix Ratio | | | |
| By weight | 1 | 1 | -- |
| By volume | 1 | 1 | -- |

| Typical Cured Properties | Typical Value |
|---|---|
| Tensile Strength, psi, ASTM D 638 | 4100-4300 |
| Elongation, %, ASTM D 638 | 20-40 |
| Shear Strength @ 77°F, psi, Etched Aluminum ASTM D 1002 | 3,000 Minimum |
| Shear Strength @ 180°F, psi, Etched Aluminum ASTM D 1002 | 1900-2100 |
| Hardness, Shore D | 75-80 |

| Shear Strength, psi, ASTM D1002 | Typical Value |
|---|---|
| Aluminum | 3250 |
| Steel | 3810 |
| Stainless Steel | 2900 |
| Zinc Dichromate | 1100 |
| Polycarbonate | 990 |
| Fiberglas | >1650 |
| Gelcoat | >1420 |

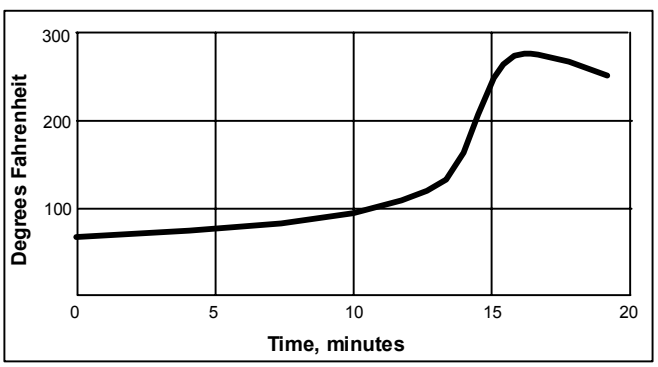
| Side Impact Strength, kJ/m$^2$, GM9751P test | Typical value |
|---|---|
| Aluminum | 25 to 30 |

| Shear Strength after Environmental Exposure, psi, Steel, ASTM D 1002 | | |
|---|---|---|
| | 2 Weeks | 4 Weeks |
| 120°F/100% RH | 2630 | 1710 |

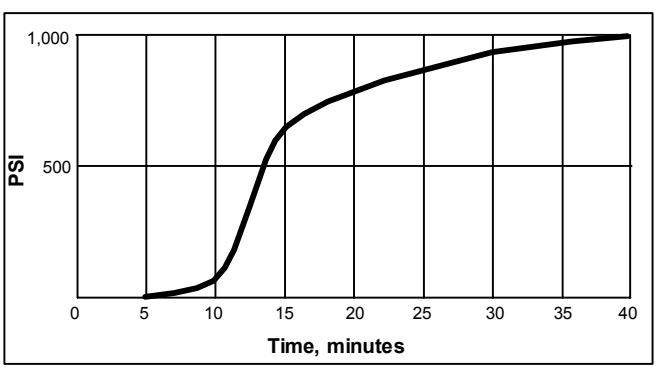
| Block Shear, ASTM D4501, psi | Typical Value |
|---|---|
| PVC | 2120 |
| ABS | 1880 |

| T-peel, pli, ASTM D1876 | Typical Value |
|---|---|
| Steel | 45 to 55 |
| Aluminum | 15 to 20 |
| Etched Alumunim | 30 |

**Peak Exotherm Curve –10 Gram Mass**




**Development of Bond Strength**
Strength Build on FRP




**GENERAL INFORMATION**
**This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.**

**For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).**

**Handling and Application**

Mixing: It is highly recommended that either meter mix equipment or cartridges with static mix nozzles be used to properly ratio and dispense the adhesive. For hand mixing, combine Part A and Part B in the correct ratio and mix thoroughly. Once mixed, H3300 should achieve a uniform color. This is important! Heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

Applying: Bonding surfaces should be clean, dry, and free of contamination. Extensive surface preparation is not required for H3300, and good bonds can be formed on most substrates after a solvent wipe. To assure maximum bond strength, surfaces must be mated within the adhesive's open time. Use enough material to completely fill the joint when parts are clamped.

Curing: Parts should remain undisturbed during the interval of time between the material's open time and fixture time. After the fixture time is achieved the material has reached handling strength. Temperature below 55°F will slow the cure; above 85°F will accelerate cure rate.

Clean Up: It is important to clean up excess adhesive from the work area and application equipment before it cures. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive. Speedbonder H3300 is flammable. Keep containers tightly closed after use. Keep away from heat, sparks, and open flames.

**Storage**

Speedbonder adhesives should be stored in unopened containers in a dry location at 40°F +/- 5 F. For further specific shelf life information, contact your local Technical Service Center.

**Packaging**

50ml EPS cartridges
400ml EPS cartridges
5 Gallon Pails
55 Gallon Drums

**Note**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

# Material Safety Data Sheet

**Material Name: AMERICA'S CHOICE SPINDLE OILS** **ID: 82823**

## * * * Section 1 - Chemical Product and Company Identification * * *

**Product Code:** Prefix 31
**Chemical Name:** AMERICA'S CHOICE SPINDLE OILS
**Product Use:** For lubricating hydraulic systems. If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.
**Synonyms:** Petroleum oil; Lube oil; Petroleum hydrocarbon; Lubricant.

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 400
Richardson, TX 75080

Phone: 1-800-669-5740

Emergency # 1-800-468-1760
www.safety-kleen.com

**Issue Date**
December 7, 2012
**Supersedes Issue Date**
October 31, 2009
**Original Issue Date**
March 21, 2000
PREPARED BY: Product MSDS Coordinator APPROVED BY: MSDS Task Force

## * * * Section 2 - Hazardous Identification * * *

**EMERGENCY OVERVIEW**
**Appearance**
Liquid, amber, petroleum odor.
**Signal Word**
WARNING!
**Health Hazards**
May be harmful if swallowed.
May irritate the eyes and skin.
**POTENTIAL HEALTH EFFECTS**
**Inhalation (Breathing)**
This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, and lungs).
**Eyes**
May cause irritation.
**Skin**
May cause irritation. Not likely to be absorbed through the skin in harmful amounts.
**Ingestion (Swallowing)**
May be harmful if swallowed. May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.
**Medical Conditions Aggravated by Exposure**
Individuals with pre-existing respiratory tract (nose, throat, and lungs), eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**Chronic**

Prolonged or repeated inhalation of oil mist may cause oil pneumonia, lung tissue inflammation, and/or fibrous tissue formation. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

**Cancer Information**

No known carcinogenicity. For more information, see **SECTION 11: CARCINOGENICITY**.

**Environmental Hazards**

Not available. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

## * * * Section 3 - Composition / Information on Ingredients * * *

| CAS | Component | Percent |
|---|---|---|
| 64742-58-1 | Lubricating oils, petroleum, hydrotreated spent | 12-81* |
| 64742-62-7 | Residual oils (petroleum), solvent dewaxed | 0-69* |
| 64742-57-0 | Residual oils (petroleum), hydrotreated | 0-69* |
| 64742-01-4 | Residual oils (petroleum), solvent refined | 0-69* |
| 72623-83-7 | Lubricating oils (petroleum), C>25, hydrotreated bright stock | 0-69* |
| 64741-88-4 | Petroleum distillates, solvent-refined heavy paraffinic | 0-69* |

*Even though the concentration ranges does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

## * * * Section 4 - First Aid Measures * * *

**Inhalation (Breathing)**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

**Eyes**

If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

**Skin**

Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists. If product is injected under pressure into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual as a medical emergency. Wash contaminated clothing before use.

**Ingestion (Swallowing)**

Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

**Notes to Physicians**

Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

## * * * Section 5 - Fire Fighting Measures * * *

**Hazardous Combustion Products**

Decomposition and combustion materials may be toxic. Burning may produce sulfur oxides, aldehydes, ketones, carbon dioxide, carbon monoxide, and unidentified organic compounds.

**Conditions of Flammability**

Sparks or flame. Product may burn, but does not ignite readily.

**Extinguishing Media**

Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.

**Fire Fighting Equipment/Instructions**

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

**NFPA Ratings: Health:** 1 **Fire:** 1 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Fire and Explosion Hazards**

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

## * * * Section 6 - Accidental Release Measures * * *

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal.

Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal.

## * * * Section 7 - Handling and Storage * * *

**Handling Procedures**

Keep away from sparks or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools and explosion-proof equipment. When transferring large volumes of product, metal containers, including trucks and tank cars, should be grounded and bonded. This product has a low vapor pressure and is not expected to present an inhalation hazard under normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes.

**Shipping and Storing**

Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous.

## * * * Section 8 - Exposure Controls / Personal Protection * * *

**Exposure Guidelines**

**Component Exposure Limits**

None available.

**Engineering Controls**

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

**Personal Protective Equipment: Respiratory**

No respiratory protection is normally required. Use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

**Personal Protective Equipment: Eyes/Face**

Where eye contact is likely, wear chemical goggles; contact lens use is not recommended.

**Personal Protective Equipment: Skin**

Where skin contact is likely, wear chemical impervious protective gloves; use of natural rubber or equivalent gloves is not recommended.

When product is heated and skin contact is likely, wear heat-resistant gloves, boots, and other protective clothing. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

**Personal Protective Equipment: Personal Hygiene**

Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard leather articles, such as shoes, saturated with this product.

**Other Personal Protective Equipment**

Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

## * * * Section 9 - Physical & Chemical Properties * * *

| | | | |
|---|---|---|---|
| **Appearance/Odor :** | Liquid, amber, petroleum odor. | **pH:** | Not applicable |
| **Boiling Point:** | 265ºF (165ºC) (minimum) | **Melting Point:** | Not available [pour point -22°F (-30°C) (maximum)] |
| **Solubility (H2O):** | Insoluble | **Specific Gravity:** | 0.87 (water = 1) (approximately) |
| **Density:** | 7.2 LB/US gal (860 g/L) (approximately) | **Octanol/H2O Coeff.:** | Not available |
| **Evaporation Rate:** | Not available | **Molecular Weight:** | Not applicable |
| **Odor Threshold:** | Not available. | **Auto Ignition Temperature:** | Not available. |
| **LFL:** | Not available. | **Flash Point:** | 329ºF (165ºC) (minimum) Cleveland Open Cup |
| **UFL:** | Not available. | | |
| **Vapor Pressure:** | less than 0.1 mm Hg at 68ºF (20ºC) | | |

## * * * Section 10 - Chemical Stability & Reactivity Information * * *

**Stability**

Stable under normal temperatures and pressures.

**Incompatibility**

Avoid oxidizing agents and reducing agents.

**Reactivity**

Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

**Hazardous Decomposition Products**

None under normal temperatures and pressures. See also **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS**. Burning may produce sulfur oxides, aldehydes, ketones, carbon dioxide, carbon monoxide, and unidentified organic compounds.

**Conditions To Avoid**

Avoid sparks or flame and incompatible materials.

## * * * Section 11 - Toxicological Information * * *

**Toxicity Data**

**Component Analysis - LD50/LC50**

**Lubricating oils, petroleum, hydrotreated spent (64742-58-1)**

Oral LD50 Rat >2000 mg/kg; Dermal LD50 Rat >2000 mg/kg; Dermal LD50 Rabbit >4480 mg/kg

**Residual oils (petroleum), solvent refined (64742-01-4)**

Inhalation LC50 Rat 2.18 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

**Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4)**

Inhalation LC50 Rat 2.18 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

**Residual oils (petroleum), solvent dewaxed (64742-62-7)**

Inhalation LC50 Rat 2.18 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

**Lubricating oils (petroleum), C>25, hydrotreated bright stock (72623-83-7)**

Oral LD50 Rat >5000 mg/kg

**Acute Effects**

May be harmful if swallowed. May irritate eyes and skin. May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

**Sensitization**

Based on best current information, there is no known human sensitization associated with this product.

**Mutagenicity**

Experimental evidence suggests that this product does not cause mutagenesis.

**Reproductive Toxicity**

Based on best current information, there is no known reproductive toxicity associated with this product. Also see **SECTION 15: CALIFORNIA.**

**Teratogenicity**

Based on best current information, there is no known teratogenicity associated with this product.

## * * * Section 12 - Ecological Information * * *

**Ecotoxicity**

No information available for the product.

**Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Lubricating oils, petroleum, hydrotreated spent (64742-58-1)**

| Duration/Test/Species | Concentration/Conditions | Notes |
|---|---|---|
| 96 Hr LC50 Brachydanio rerio | 79.6 mg/L [semi-static] | |
| 96 Hr LC50 Pimephales promelas | 3.2 mg/L [semi-static] | |

**Residual oils (petroleum), solvent refined (64742-01-4)**

| Duration/Test/Species | Concentration/Conditions | Notes |
|---|---|---|
| 96 Hr LC50 Oncorhynchus mykiss | >5000 mg/L | |

**Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4)**

| Duration/Test/Species | Concentration/Conditions | Notes |
|---|---|---|
| 96 Hr LC50 Oncorhynchus mykiss | >5000 mg/L | |

**Residual oils (petroleum), solvent dewaxed (64742-62-7)**

| Duration/Test/Species | Concentration/Conditions | Notes |
|---|---|---|
| 96 Hr LC50 Oncorhynchus mykiss | >5000 mg/L | |

**Lubricating oils (petroleum), C>25, hydrotreated bright stock (72623-83-7)**

| Duration/Test/Species | Concentration/Conditions | Notes |
|---|---|---|
| 96 Hr LC50 Lepomis macrochirus | >10000 mg/L | |

**Persistence/Degradability**

May cause long-term adverse effects in the aquatic environment.

**Bioaccumulation/Accumulation**

No data available for the product.

**Mobility in Environmental Media**

No information available for the product.

**Other Adverse Effects**

No additional information available.

## *** Section 13 - Disposal Considerations ***

**Disposal Instructions**

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**US EPA Waste Number & Descriptions**

This product, if discarded, is not expected to be a characteristic or listed hazardous waste. If recycled in the USA, this product can be managed in accordance with the oil exemption under 40 CFR Part 279. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

## *** Section 14 - Transportation Information ***

**Emergency Response Guide Number**

Not applicable. Reference .*North American Emergency Response Guidebook*

**DOT** **Shipping Name:** Not regulated as a hazardous material.

**TDG** **Shipping Name:** Not regulated as a dangerous good.

**IATA Information**

No Classification Assigned.

**IMDG Information**

No Classification Assigned.

## *** Section 15 - Regulatory Information ***

**Volatile Organic Compounds (As Regulated)**

Negligible, As per 40 CFR 40 CFR 51.100(s).

**SARA Sections 311/312**

This product poses the following health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):
Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

**SARA 302/304**

**Component Analysis**

Based on the ingredient(s) listed in SECTION 3, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA Section 313**

**Component Analysis**

This product does not contain any "toxic" chemical subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

**CERCLA**

**Component Analysis**

Based on the ingredient(s) listed in SECTION 3, this product does not contain any "hazardous substance" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.

**TSCA**

All the components of this product are listed on, or are exempted from the requirement to be listed on, the TSCA Inventory.

**Component Analysis**

| Component | CAS # | TSCA |
|---|---|---|
| Lubricating oils, petroleum, hydrotreated spent | 64742-58-1 | Yes |
| Residual oils (petroleum), solvent refined | 64742-01-4 | Yes |
| Residual oils (petroleum), hydrotreated | 64742-57-0 | Yes |
| Petroleum distillates, solvent-refined heavy paraffinic | 64741-88-4 | Yes |
| Residual oils (petroleum), solvent dewaxed | 64742-62-7 | Yes |
| Lubricating oils (petroleum), C>25, hydrotreated bright stock | 72623-83-7 | Yes |

**State Regulations**

**U.S. State Regulations**

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

No component(s) are listed under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

**California**

This product does not contain any chemical known to the State of California to cause cancer.

This product does not contain any chemical known to the State of California to cause birth defects or other reproductive harm.

**Canadian Regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

**Component Analysis**

| Component | CAS # | CAN |
|---|---|---|
| Lubricating oils, petroleum, hydrotreated spent | 64742-58-1 | DSL |
| Residual oils (petroleum), solvent refined | 64742-01-4 | DSL |
| Residual oils (petroleum), hydrotreated | 64742-57-0 | DSL |
| Petroleum distillates, solvent-refined heavy paraffinic | 64741-88-4 | DSL |
| Residual oils (petroleum), solvent dewaxed | 64742-62-7 | DSL |
| Lubricating oils (petroleum), C>25, hydrotreated bright stock | 72623-83-7 | DSL |

**Canadian WHMIS Information**

Not regulated.

# Material Safety Data Sheet

**Material Name: AMERICA'S CHOICE SPINDLE OILS** **ID: 82823**

**Canadian Environmental Protection Act (CEPA)**

All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

## * * * Section 16 - Other Information * * *

**Label/Other Information**

Not available.

**Revision Information**

Reformatted; modified to include all weights.

**Disclaimer**

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplier to the user.

End of Sheet 82823

Close this window MSDS

**Common Name:** SPY GLASS
**Manufacturer:** RAMSEY
**MSDS Revision Date:** 1/1/2000

**Grainger Item Number(s):** 2U095, 2U110
**Manufacturer Model Number(s):** 70117, SPY GLASS

## MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.



MSDS NO. 7S651

BALL(R*)

MANUFACTURED FOR:
W.W. GRAINGER
100 GRAINGER PARKWAY
LAKE FOREST, IL 60045-5201 USA
(847) 535-1000

TECHNICAL SERVICE: (847) 535 - 5400
EMERGENCY PHONE: (800) 228 - 5635
PRODUCT CODE: SKU # 2U110
ITEM #: 8163110

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: SPY GLASS

PRODUCT TYPE: GLASS CLEANER CONCENTRATE

MSDS DATE: JANUARY 1, 2000

HMIS HAZARD RATING:
HEALTH = 2
FLAMMABILITY = 2
REACTIVITY = 0

HMIS SCALE:
4=VERY HIGH
3=HIGH

2=MODERATE
1=SLIGHT
0=INSIGNIFICANT

## I INGREDIENTS

top

| | CAS NUMBER | OSHA (PEL) | ACGIH (TLV) | % |
|---|---|---|---|---|
| WATER | 7732-18-5 | NA | NA | |
| *,** (PA, NJ, MA) 2-BUTOXYETHANOL | 111-76-2 | 25 PPM (SKIN) | 25 PPM (SKIN) | 14-17 |
| SODIUM LAURYL ETHER SULFATE | 3088-31-1 | NE | NE | 1-4 |
| ** (PA) METHYL SALICYLATE | 119-36-8 | NE | NE | 1-2 |

* REPORTABLE UNDER S.A.R.A. TITLE III SECTION 313.

** SUBJECT TO REPORTING REQUIREMENTS UNDER THE PENNSYLVANIA, NEW JERSEY, AND MASSACHUSETTS HAZARDOUS SUBSTANCE LIST.

## II PHYSICAL DATA

top

| | |
|---|---|
| APPEARANCE & ODOR: | CLEAR DARK BLUE LIQUID; MINT FRAGRANCE |
| BOILING POINT: | APPROX. 212 DEG. F |
| SPECIFIC GRAVITY (WATER = 1): | 0.99 |
| VAPOR PRESSURE (MMHG 20 DEG. C): | NA |
| VOLATILE ORGANIC COMPOUND: | 150 GRAMS/LITER |
| VAPOR DENSITY (AIR=1): | NA |
| PH: | 7.5-8.5 |
| SOLUBILITY IN WATER: | COMPLETE |
| EVAP. RATE (BUAC=1): | NA |

## III FIRE & EXPLOSION HAZARD

top

FLASH POINT = 180 DEG. F TCC

AUTO IGNITION TEMP = NE

FLAMMABLE LIMIT
LEL = NE
UEL = NE

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE

EXTINGUISHING MEDIA:
(X) WATER SPRAY
(X) CARBON DIOXIDE
(X) FOAM
(X) DRY CHEMICAL
( ) NA

## IV REACTIVITY DATA

top

STABILITY
(X) STABLE
( ) UNSTABLE

CONDITIONS TO AVOID: NA

HAZARDOUS POLYMERIZATION
( ) MAY OCCUR
(X) WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

HAZARDOUS DECOMPOSITION/BYPRODUCT:
OXIDES OF CARBON AND NITROGEN.

## V HEALTH HAZARD INFORMATION & FIRST AID PROCEDURES

top

A. CHRONIC HEALTH HAZARD:
2-BUTOXYETHANOL HAS BEEN FOUND TO CAUSE KIDNEY, LIVER AND BLOOD EFFECTS IN LABORATORY ANIMALS. METHYL SALICYLATE HAS BEEN SHOWN TO CAUSE REPRODUCTIVE EFFECTS IN LABORATORY ANIMALS.

B. MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

NONE KNOWN

C. CARCINOGENICITY:

| NTP | IARC | OSHA | PROP 65 |
|---|---|---|---|
| ( ) YES (X) NO | ( ) YES (X) NO | ( ) YES (X) NO | ( ) YES (X) NO |

| | ROUTE OF ENTRY | SIGNS & SYMPTOMS OF ACUTE OVEREXPOSURE/ EMERGENCY & FIRST AID PROCEDURES |
|---|---|---|
| EYES | X | CAUSES IRRITATION. REDNESS, TEARING, BURNING<br><br>FLUSH WITH WATER FOR 15 MINUTES. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. |
| INHALATION | X | NAUSEA, HEADACHE, IRRITATED NASAL PASSAGES<br><br>MOVE SUBJECT TO FRESH AIR. IF SYMPTOMS PERSIST, GET MEDICAL ATTENTION. |
| INGESTION | X | MAY BE HARMFUL IF SWALLOWED. GASTRO-INTESTINAL DISTURBANCES<br><br>DILUTE BY GIVING TWO GLASSES OF WATER TO DRINK. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. |
| SKIN | X | REDNESS, DRYNESS, MAY CAUSE IRRITATION |

WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION
PERSISTS, GET MEDICAL ATTENTION.

## VI PRECAUTION FOR SAFE HANDLING AND USE

top

MATERIAL IS SPILLED/RELEASED:
MOP UP MATERIAL OR PICK UP WITH ABSORBENT MATERIAL. RINSE WITH WATER.

WASTE DISPOSAL:
FOLLOW ALL FEDERAL, STATE, AND LOCAL WASTE REGULATIONS.

HANDLING & STORING:
KEEP OUT OF REACH OF CHILDREN.

OTHERS:
FOLLOW NORMAL HYGIENE PRACTICES.

## VII SPECIAL PROTECTION INFORMATION

top

RESPIRATORY

(X) NONE
( ) DUST MASK
( ) CANISTER

VENTILATION

( ) NONE
(X) LOCAL EXHAUST
( ) MECHANICAL

PROTECTIVE GLOVES

( ) NONE
(X) CHEMICALLY RESISTANT
( ) FOR PROLONGED CONTACT

EYE PROTECTION

( ) NONE
(X) EYE PROTECTION/SPLASH GOGGLES
( ) FACE SHIELD

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
EYEWASH, PROTECTIVE CLOTHING.

## VIII D.O.T. INFORMATION

top

PROPER SHIPPING NAME:

HAZARD CLASS:

UN/NA NUMBER:

OTHER: THIS PRODUCT IS NOT D.O.T. REGULATED

MSDS PREPARED BY: EH & S/REGULATORY AFFAIRS

THE INFORMATION CONTAINED HEREIN HAS BEEN DEVELOPED BASED UPON CURRENT AVAILABLE SCIENTIFIC DATA. NEW INFORMATION MAY BE DEVELOPED FROM TIME TO TIME WHICH MAY RENDER THE CONCLUSIONS OF THIS REPORT OBSOLETE. THEREFORE, NO WARRANTY IS EXTENDED AS TO THE APPLICABILITY OF THIS INFORMATION TO THE USER'S INTENDED PURPOSE OR FOR THE CONSEQUENCES OF ITS USE OR MISUSE.

NA = NOT APPLICABLE
NE = NOT ESTABLISHED
NH = NOT HAZARDOUS

# MATERIAL SAFETY DATA SHEET

# eni Non-Detergent Motor Oil, All SAE Grades (Single)

## SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

**LABEL IDENTITY:** eni Non-Detergent Motor Oil, All SAE Grades (Single)

**DESCRIPTION:** A Non-Detergent SAE Single Grade Motor Oil.
**PRODUCT CAS NO.:** Not applicable for mixtures.
**GENERIC/CHEMICAL NAME:** Petroleum hydrocarbon Mixture containing antioxidant(s) and other additives.

**MANUFACTURER/ SUPPLIER:**

**Eni USA R&M Co. Inc.**
539 Marwood Road
Cabot, PA 16023
Ph: (724) 352-4451
Fax: (724) 352-9543

**EMERGENCY TELEPHONE #:**
**Manufacturer:** 8am - 5pm EST (M-F)
1-800-922-9243

**Chemtrec:** 24hrs EVERYDAY
1-800-424-9300

## SECTION 2. HAZARD IDENTIFICATION:

### EMERGENCY OVERVIEW

**APPEARANCE / STATE:** Amber Color; Viscous liquid.

**CAUTION !!** **Slip Hazard if Spilled.**

**HEALTH HAZARDS:**
May be harmful if swallowed.
May irritate eyes, skin, digestive/intestinal system.
Vapor/Mist(s) can irritate lungs/respiratory system.

**ROUTES OF ENTRY:** Skin contact, eye contact, inhalation, and ingestion.

**TARGET ORGAN EFFECTS: (refer to Sec. 11 Toxicological Information).**

**Oil (as Mist):** Hazardous effects: Accumulation in Lungs (Pneumonitis). NFPA=0-1-0.

**Phenol:** Hazardous effects: Marked Irritation - eye, nose, throat; cumulative liver and kidney damage; skin; suspect carcinogen. NFPA=3-2-0.

**Toluene:** Hazardous effects: Moderate irritation-eye, nose, throat; Narcosis; "skin"; suspect teratogen; mutagen. NFPA=2-3-0.

**Ethyl Acrylate:** Hazardous effects: Marked irritation-eye, nose, throat, lungs; "skin"; lung edema; suspect carcinogen (IARC & NTP). NFPA=2-3-2.

**Benzene:** Hazardous effects: Cumulative bone marrow damage; suspect leukemogen; "skin". NFPA=2-3-0. **(see Potential Health Effects-Inhalation, below for more detail).**

**WARNING: AVOID SKIN CONTACT WITH USED HEAT-DEGRADED OILS, SUCH AS MOTOR OIL, METAL-WORKING OIL, ETC.!!**

**(refer to Sec. 11 Toxicological Information - Other Considerations, for more detail)**

**(refer also to Sec. 16 for HMIS & NFPA Ratings).**

**POTENTIAL HEALTH EFFECTS:**

**(Signs & Symptoms of Exposure)**

**INHALATION (Breathing):** This product has a low vapor pressure and is not expected to present an inhalation exposure at ambient conditions. However, upon heating to high temperatures, or mechanical actions which may produce aerosols, vapors, mists, or fumes, inhalation of product may cause irritation of the respiratory tract (lungs, breathing passages, nose, and throat). Prolonged or repeated inhalation of Oil Mist may cause oil / chemical pneumonia, lung tissue inflammation, and/or fibrous tissue formation.

**(refer also to Sec. 8 & 11 for more information).**

**EYE CONTACT:** May cause irritation, but no permanent damage. Prolonged or repeated eye contact may cause inflammation of the membrane linings of the eyelids and covering of the eyeball (conjunctivitis).

**SKIN CONTACT:** May cause irritation, but no permanent damage. Not likely to be absorbed through the skin in harmful amounts. Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

**INGESTION (Swallowing):** May be harmful if swallowed. May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury, chemical pneumonia, and possible death.

**MEDICAL CONDITIONS AGGREVATED BY EXPOSURE:**

Eye Conditions/Diseases
Skin Conditions/Diseases
Respiratory System Conditions/Diseases, if mist/vapor(s) are generated.
Lung (Asthma-like) Conditions/Diseases, if mist/vapor(s) are generated.

**(refer also to Sec. 11 for Toxicological Information).**

## SECTION 3. COMPOSITION / INFORMATION OF INGREDIENTS:

| | CHEMICAL INGREDIENT | COMPOSITION %(w/w) | CAS No. |
|---|---|---|---|
| A1. | Distillates (Petroleum), Solvent-Refined Heavy Paraffinic | 0 - 99 | 64741-88-4 |
| A3. | Distillates (Petroleum), Solvent-Refined Light Paraffinic | 0 - 99 | 64741-89-5 |
| A2. | Residual oils (petroleum), solvent deasphalted (Oil) | 0 - 99 | 64741-95-3 |
| A4. | Residual Oils (Petroleum), Solvent-Refined | 0 - 99 | 64742-01-4 |
| A5. | Distillates (Petroleum), Hydrotreated Middle | 0 - 99 | 64742-46-7 |
| A6. | Distillates (Petroleum), Hydrotreated Light | 0 - 99 | 64742-47-8 |
| A7. | Distillates (Petroleum), Hydrotreated Light Naphthenic | 0 - 99 | 64742-53-6 |
| A8. | Distillates (Petroleum), Hydrotreated Heavy Paraffinic | 0 - 99 | 64742-54-7 |
| A9. | Distillates (Petroleum), Hydrotreated Light Paraffinic | 0 - 99 | 64742-55-8 |
| A10. | Residual Oils (Petroleum), Hydrotreated | 0 - 99 | 64742-57-0 |
| A11. | Lubricating Oils (Petroleum), Hydrotreated Spent | 0 - 99 | 64742-58-1 |
| A12. | Residual Oils (Petroleum), Solvent-Dewaxed | 0 - 99 | 64742-62-7 |
| A13. | Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic (Oil) | 0 - 99 | 64742-65-0 |
| A14. | Lubricating Oils (Petroleum), C>25, Hydrotreated Bright Stock-Based | 0 - 99 | 72623-83-7 |
| A15. | Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based, Contg. Solvent Deasphalted Residual Oil | 0 - 99 | 72623-84-8 |
| A16. | Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based, High-Viscosity | 0 - 99 | 72623-85-9 |
| A17. | Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based | 0 - 99 | 72623-86-0 |
| A18. | Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based | 0 - 99 | 72623-87-1 |
| A19. | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C15-30, Branched and Cyclic | 0 - 99 | 178603-64-0 |
| A20. | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C20-40, Branched and Cyclic | 0 - 99 | 178603-65-1 |
| A21. | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C25-55, Branched and Cyclic | 0 - 99 | 178603-66-2 |

| | | | |
|---|---|---|---|
| *A22.* | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C10-25, Branched and Cyclic | 0 - 99 | 445411-73-4 |
| *B.* | White Mineral Oil (Petroleum) | 0 - 2 | N/D-1 (8042-47-5) |
| *C1.* | Phosphorodithioic Acid, O, O-Di-C1-14-Alkyl Esters, Zinc salts. [aka. Zinc Dialkyldithiophosphate] | 0 - 1 | 68649-42-3 |
| *C2.* | Zinc, bis[O,O-bis(2-ethylhexyl) phosphorodithioato-.kappa.S,.kappa.S']-, (T-4)-. [aka. Zinc Alkyldithiophosphate] | 0 - 1 | 4259-15-8 |
| *C3.* | Naphthalenesulfonic acid, dinonyl-, zinc salt (2:1). [aka. Zinc Alkyl Sulfonate] | 0 - 0.02 | 28016-00-4 |
| *D.* | Benzenesulfonic acid, mono- and dialkyl derivs., magnesium salts. [aka. Magnesium Alkyl Sulfonate] | 0 - 0.2 | 71786-47-5 |
| *E1.* | Calcium Alkyl Sulfonate | 0.005 - 0.040 | N/D-2 |
| *E2.* | Calcium AlkAryl Sulfonate | 0 - 0.02 | N/D-3 |
| *E3.* | Calcium Long-chain Alkylphenate Sulfide (Phenol, Dodecyl-, Sulfurized, Carbonates, Calcium Salts, Overbased). [aka. Calcium Long-chain Alkylphenate Sulfide] | 0 - 0.1 | N/D-4 (68784-26-9) |
| *F.* | Butylated Phenol | 0 - 0.5 | N/D-5 |
| *G.* | Phosphorous Acid, Triphenyl Ester. [aka. Aryl Phosphite] | 0 - 0.05 | 101-02-0 |
| *H.* | Phenol, (Tetrapropenyl) Derivs. [aka. AlkylPhenol] | 0 - 0.2 | 74499-35-7 |
| *I.* | Long-Chain Alkenyl Succinimide | 0 - 0.2 | N/D-6 |
| *J.* | Phenol | 0 - 0.01 | 108-95-2 |
| *K.* | Phenol, 4-Dodecyl- | 0 - 0.01 | 104-43-8 |
| *L1.* | Benzene, Methyl-. [aka. Toluene] | 0.013 | 108-88-3 |
| *L2.* | 2-Propenoic Acid, Ethyl Ester. [aka. Ethyl Acrylate]. **[IARC & NTP Carcinogen]** | 0.0001 | 140-88-5 |
| *L3.* | Acrylate Ester | 0.00024 | N/D-7 |
| *L4.* | Benzene | 0.000003 | 71-43-2 |
| *M.* | Butene, Homopolymer (aka. Polyisobutylenes) | 0 - 0.25 | 9003-29-6 |
| *N.* | **Other Misc. Additives Components:** includes PPD Polymers (2-Butenedioic Acid (2E)-, Di-C8-18-Alkyl Esters, Polymers with Vinyl Acetate); 2-Ethyl-1-Hexanol; 1-Propene, Polymer with Ethene (aka. Propylene-Ethylene Copolymer VI); Trade Secret / Proprietary. | 0 - 13 | **Misc.-1:** (68954-12-1); 104-76-7; (9010-79-1). |

| **cont.** | ***EXPOSURE LIMITS*** | **OSHA** | | **ACGIH - TLV** | | **OTHER / COMMENT** |
|---|---|---|---|---|---|---|
| | **CAS No.** | **PEL-TWA #** | **CEILING** | **TWA #** | **STEL** | |
| *A1 to A22.* | 64741-88-4, 64741-89-5, 64741-95-3; 64742-01-4, 64742-46-7, 64742-47-8, 64742-53-6, 64742-54-7, 64742-55-8, 64742-57-0, 64742-58-1, 64742-62-7, 64742-65-0; 72623-83-7, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1; 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4 (as Oil Mist) | $5mg/m^3$ | N/A | $5\ mg/m^3$ | $10\ mg/m^3$ | IDLH= $2500\ mg/M^3$ |
| *B.* | N/D-1 (as Oil Mist) | $5mg/m^3$ | N/A | $5\ mg/m^3$ | $10\ mg/m^3$ | IDLH= $2500\ mg/M^3$ |
| *C1.* | 68649-42-3 | N/A | N/A | N/A | N/A | N/A |
| *C2.* | 4259-15-8 | N/A | N/A | N/A | N/A | N/A |
| *C3.* | 28016-00-4 | N/A | N/A | N/A | N/A | N/A |
| *D.* | 71786-47-5 | N/A | N/A | N/A | N/A | N/A |
| *E1.* | N/D-2 | N/A | N/A | N/A | N/A | N/A |
| *E2.* | N/D-3 | N/A | N/A | N/A | N/A | N/A |
| *E3.* | N/D-4 | N/A | N/A | N/A | N/A | N/A |
| *F.* | N/D-5 | N/A | N/A | N/A | N/A | N/A |
| *G.* | 101-02-0 | N/A | N/A | N/A | N/A | N/A |
| *H.* | 74499-35-7 | N/A | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| *I.* | N/D-6 | N/A | N/A | N/A | N/A | N/A |
| *J.* | 108-95-2 | 5 ppm | N/A | 5 ppm | N/A | IDLH= 250 ppm |
| *K.* | 104-43-8 | N/A | N/A | N/A | N/A | N/A |
| *L1.* | 108-88-3 | 100 ppm | 150 ppm | 188 mg/m$^3$ | 50 ppm | IDLH= 2500 mg/M$^3$ |
| *L2.* | 140-88-5 | 5 ppm | 25 ppm | 5 ppm | 15 ppm | IDLH= 300 ppm |
| *L3.* | N/D-7 | N/A | N/A | N/A | N/A | N/A |
| *L4.* | 71-43-2 | 1 ppm | 5 ppm | 10 ppm | 15 ppm | N/A |
| *M.* | 9003-29-6 | N/A | N/A | N/A | N/A | N/A |
| *N.* | **Misc.-1** | N/A | N/A | N/A | N/A | N/A |

**# = 8 hr. day & 40 hr. week TWA.**

***NOTES*:** ***PEL =*** *Permissible Exposure Limit (OSHA).*
***TLV =*** *Threshold Limit Value (ACGIH).*
***TWA =*** *Time-Waited Average over a work day (usually 8-12 hr. day)*
***Ceiling =*** *maximum allowable human exposure limit for an airborne substance; never to be exceeded even momentarily, (even if the 8-hr. TWA is not exceeded).*
***STEL =*** *Short-Term Exposure Limit = 15 minute Time-Weighted Average maximum allowable human exposure limit for an airborne substance; never to be exceeded even momentarily during a workday (even if the 8-hr. TWA is not exceeded).*
***IDLH =*** *Immediately Dangerous to Life and Health (NIOSH) = Airborne Concentration which may cause irreversible health effects or death.*
***N/D =*** *Information Not Disclosed by Eni USA R&M Co Inc.'s supplier and was withheld as a Trade Secret.*

## SECTION 4. FIRST AID MEASURES:

**INHALATION (Breathing):** Evacuate the victim to a safe area with fresh air as soon as possible. If the victim is not breathing, perform artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with the victim. Allow the victim to rest in a well ventilated area. Seek medical attention.

**EYE CONTACT:** Upon contact, remove contact lenses, if worn. Immediately flush eyes with low pressure water and continue washing for at least fifteen minutes, keeping eyelids open. If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Obtain medical attention.

**SKIN CONTACT:** Remove contaminated clothing and shoes - launder before reuse. Wash gently and thoroughly the contaminated skin with non-abrasive soap and running water. If irritation persists or if contact has been prolonged, obtain medical attention. If product is injected under pressure into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual as a medical/surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of the injury.

**INGESTION (Swallowing):** DO NOT induce vomiting because of danger of aspirating liquid into lungs which can result in chemical pneumonia, other lung damage, mild to severe pulmonary injury, and possibly death. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person. Keep airway clear. Seek medical attention.

**(refer to Sec. 2 for other Hazards).**

**PHYSICIAN NOTE:** Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of the incident. Do not induce vomiting, use gastric lavage only. Aspiration of petroleum distillates associated with vomiting may cause pulmonary irritation and pneumonitis. If aspiration is suspected, respiratory effects should be evaluated. Suspicious skin lesions should be exercised and examined histologically. Subcutaneous or intramuscular injection requires prompt surgical debridement.

**Call the Poison Control Center, if Necessary.**

## SECTION 5. FIRE FIGHTING MEASURES:

**NAERG '08, GUIDE:** 171 - Substances (low to moderate hazard).

**FLAMMABILITY:** Low fire hazard - liquid can burn if heated to temperatures above the flashpoint.

**FLAMMABLE LIMITS:** Not Available. **LEL:** Not Available. **UEL:** Not Available.

**FLASHPOINT (method):** $\geq$ 180 $^{o}$C / 356 $^{o}$F (Cleveland Open Cup).

**AUTOIGNITION TEMPERATURE:** N/A

**FIRE HAZARDS:** Low fire hazard. Must be heated before ignition will occur. Mists and sprays may burn at temperatures below the flash point. Avoid contact with strong oxidizing agents, including peroxides, chlorine, and strong acids.

**(refer also to Sec. 16 for NFPA & HMIS Ratings)**

**EXPLOSION HAZARDS:** "Empty" containers retain product residue (liquid/vapors) and can be dangerous. DO NOT cut, weld, braze, solder, grind, drill, pressurize, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition: Heated vapor in enclosed spaces can ignite and **MAY EXPLODE AND CAUSE INJURY OR DEATH**. Empty drum should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed of. Products are not sensitive to mechanical impact.

**FIRE FIGHTING MEDIA & INSTRUCTIONS:** **NAERG '08, GUIDE: 171 - Substances (low to moderate hazard).**

If tank, rail car, or tank truck; stay away from the ends of tanks, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. Shut off fuel to fire (remove containers) if it is possible to do so without hazard. If this is not possible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately is case of rising sound from venting safety device or any discoloration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition, or explosion. Use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapors, fumes, or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

**SMALL FIRE:** use DRY chemicals, foam, water spray, or $CO_2$.

**LARGE FIRE:** use water spray, fog, or foam. For small outdoor fires, portable fire extinguishers may be used. A positive-pressure, self contained breathing apparatus (SCBA - MSHA/NIOSH approved or equivalent) and full-body protective equipment is required for fire emergencies (all indoor fires and any significant outdoor fires). Respiratory and eye protection are required for fire-fighting personnel. Water or foam may cause frothing. Do not scatter spilled material with high pressure water streams. Dike fire-control water for later disposal. Prevent runoff to drinking water supply, streams, and sewers. Continue cooling containers with flooding quantities of water until well after the fire is out.

**HAZARDOUS COMBUSTION PRODUCTS:**

Decomposition and combustion materials may be toxic. During fire or when heated to decomposition, the following materials may be produced: Smoke, irritating vapors, unidentified organic compounds, aldehydes, hydrogen sulfide ($H_2S$), alkyl mercaptans, sulfides; and oxides of Carbon Nitrogen, Phosphorus, Zinc, Calcium, Magnesium, and Sulfur.

**The information chart below is not for determining the hazardousness of this product, as manufactured; it is provided here as reference information should the product be incinerated:**

| EXPOSURE LIMITS |
|---|

| *POSSIBLE COMBUSTION PRODUCTS* | OSHA | | ACGIH - TLV | | OTHER / COMMENTS |
|---|---|---|---|---|---|
| **Chemical [CAS No.]** | **PEL-TWA #** | **CEILING** | **TWA #** | **STEL** | |
| Calcium Oxide (solid) [1305-78-8] | 5mg/$m^3$ | N/A | 2mg/$m^3$ | N/A | IDLH= 25 mg/$M^3$ |
| **HAZARDOUS EFFECTS:** Marked irritation-eye, nose, throat, skin. (NFPA=1-0-1). | | | | | |
| Magnesium Oxide (fume) [1309-48-4] | 15mg/$m^3$ | N/A | 10 mg/$m^3$ | N/A | IDLH= 750 mg/$M^3$ |
| **HAZARDOUS EFFECTS:** Fume fever. (NFPA= N/A) | | | | | |
| Zinc Oxide (fume) [1314-13-2] | 5mg/$m^3$ | N/A | 5 mg/$m^3$ | 10 mg/$m^3$ | IDLH= 500 mg/$M^3$ |
| **HAZARDOUS EFFECTS:** Acute systemic toxicity (metal fume fever); mutagen. (NFPA= N/A) | | | | | |
| Carbon Monoxide [630-08-0] | 55mg/$m^3$ | N/A | 55 mg/$m^3$ | 440 mg/$m^3$ | |
| | 50 ppm | N/A | 25 ppm | N/A | IDLH= 1200 ppm |
| **HAZARDOUS EFFECTS:** Chemical Anoxia & Asphyxiation. (NFPA=2-4-0). | | | | | |
| Carbon Dioxide [124-38-9] | 9000 mg/$m^3$ | N/A | 9000 mg/$m^3$ | 54000 mg/$m^3$ | |
| | 5000 ppm | N/A | 5000 ppm | 30000 ppm | IDLH= 40000 ppm |
| **HAZARDOUS EFFECTS:** Asphyxiation. (NFPA= N/A) | | | | | |
| Sulfur Dioxide [7446-09-5] | 13mg/$m^3$ | N/A | 5 mg/$m^3$ | 10 mg/$m^3$ | |
| | 5 ppm | N/A | 2 ppm | 5 ppm | IDLH= 100 ppm |
| **HAZARDOUS EFFECTS:** Marked irritation-eye, nose, throat, lungs; bronchoconstriction; mutagen, suspect reproductive effects. (NFPA=3-0-0). | | | | | |
| Hydrogen Sulfide ($H_2S$) [7783-06-4] | 10 ppm | 20 ppm | 14 mg/$m^3$ | 21 mg/$m^3$ | IDLH= N/A |
| **HAZARDOUS EFFECTS:** Moderate irritation-eye (conjunctivitis), lungs; acute systemic toxicity; CNS effects. (NFPA=3-4-0) | | | | | |

**# = 8 hr. day & 40 hr. week TWA.**

## SECTION 6. ACCIDENTAL RELEASE MEASURES:

**MATERIAL RELEASE OR SPILL:**

**NAERG '08, GUIDE:** 171 - Substance (low to moderate hazard).

**LAND:** **ELIMINATE ALL IGNITION SOURCES.** Avoid contact - Do not touch or walk through the spilled product. **STOP LEAK** if without risk. **CONTAIN SPILL.** Isolate hazard area - keep unnecessary and unprotected personnel from entering: 30 to 80 feet (10-25 meters) in all directions. Prevent contact with Soil. Stay upwind. Ventilate area and avoid breathing vapor or mist. Wear protective equipment and provide engineering controls as specified in **Section 8: Exposure Control/Personal Protection.** Contain spill away from surface waters, intermittent dry creeks, and sewers. Contain spill as a liquid for possible recovery or absorb with inert absorbents, dry clay, or diatomaceous earth. **DO NOT** use combustible materials such as sawdust. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in sealable metal containers for later disposal or burn absorbent in a suitable combustion chamber. Runoff from fire control may cause pollution.

**LARGE SPILLS:** Dike far ahead of liquid spill for collection and later disposal.
**DO NOT FLUSH TO SEWERS, STREAMS, OR OTHER BODIES OF WATER.**

Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Keep public away and notify the appropriate authorities immediately, if required. If this product is subject to CERCLA reporting **(see section 15)**, notify the National Response Center.

**WATER:** Product floats on water. Remove from surface by skimming or with suitable absorbents. If permitted by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Check with applicable jurisdiction for specific disposal requirements of recovered material and empty containers.

U.S. Coast Guard regulations require immediate reporting of spills that could reach any waterway, including intermittent dry creeks. Report spill(s) to the U.S. Coast Guard at 1-800-424-8802.

**(refer also to Sec. 13 & 15 for Regulatory information)**

## SECTION 7. HANDLING AND STORAGE:

| | | |
|---|---|---|
| **STORAGE:** | **TEMPERATURE:** Ambient | **PRESSURE:** Atmospheric. |
| **LOADING/UNLOADING:** | **TEMPERATURE:** Not Available. | **PRESSURE:** Not Available. |

**HANDLING:** Keep away from sources of ignition. This product has a low vapor pressure and is not expected to present an inhalation hazard under normal ambient conditions. However, when aerosolizing, misting, or heating these products, do not breathe vapor or mist. Use in well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. DO NOT reuse empty containers without cleaning or reconditioning. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. "Empty" drum liners also retain residue (solid, liquid, vapor). Do not reuse liners for any purpose. Liners should be emptied of contents to the maximum extent possible, then segregated from liners containing other products. Dispose of empty liners in an environmentally safe manner and in accordance with governmental regulations. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Avoid water contamination and extreme temperatures to minimize product degradation.

**STORAGE:** Flash point is greater than 200$^{o}$F. Store in tightly closed sealable containers in a cool, dry, isolated, well-ventilated area, and away from strong oxidizing agents. DO NOT pressurize, cut, weld, braze. Solder, drill, or grind containers. Keep containers away from extreme heat, flame, sparks, static electricity, or other sources of ignition; as empty product containers may retain product residues and can be dangerous. DO NOT store in unlabeled containers. Outdoor or detached storage is preferable. DO NOT store at temperatures above 120$^{o}$F or in direct sunlight for extended periods of time.

**OTHER PRECAUTIONS:** For work on tanks refer to OSHA regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

**(refer also to Sec. 13 & 15 for Regulatory Information)**

## SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION:

**EXPOSURE LIMITS:** **Oil Mist**, if generated:
PEL (OSHA) 5mg/m$^3$ - 8hr. TWA
TLV (ACGIH) 5 mg/m$^3$ - 8hr. TWA
STEL (ACGIH) 10 mg/m$^3$
TLV (NIOSH) 5 mg/m$^3$ - 8hr. TWA
STEL (NIOSH) 10 mg/m$^3$

**(refer also to Sec. 3 & 5 for Other Exposure Limits)**

**ENGINEERING CONTROLS:**

**VENTILATION:** For normal application, special ventilation is not necessary. If user's operations generate vapors or mists, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below the applicable exposure limits.

Keep containers closed when not in use. Do not store near heat, sparks, flame, or strong oxidants.

**OTHER:** Ensure that eyewash station and/or safety shower are available to the work station.

**PERSONAL PROTECTION:** **The selection of personal protective equipment varies, depending upon conditions of use. A hazard assessment of the work area for personal protective equipment requirements should be conducted by a qualified professional pursuant to OSHA regulations.**

**EYES:** DO NOT wear contact lenses. Eye protection (ie. Safety glasses, safety goggles, and/or face shield) should be determined based on conditions of use. If product is used in an appropriate application where splashing may occur, the use of chemically-resistant safety goggles and/or a face shield should be considered. Wear goggles and face shield if material is heated above 125$^{o}$F (51$^{o}$C). Have suitable eyewash water available.

**SKIN:** Avoid prolonged or repeated contact with skin. Wear appropriate clothing to prevent skin contact, such as apron, coveralls, long-sleeve shirts, etc. As a minimum, long sleeves and trousers should be worn. Wear appropriate chemically protective gloves (neoprene, nitrile, PolyVinyl Chloride, PolyVinyl Alcohol, Viton, or equivalent); use of natural rubber or equivalent is NOT recommended. When handling hot product, ensure gloves, boots, and clothing are heat resistant and insulated. Wear appropriate footwear to prevent product from coming in contact with feet and skin.

**WARNING: AVOID SKIN CONTACT WITH USED HEAT-DEGRADED OILS, SUCH AS MOTOR OIL, METAL-WORKING OIL, ETC.!!**

**RESPIRATORY:** Minimize breathing vapor, mist, or fumes. Respiratory protection is not usually needed unless product is heated or misted. Concentration in air determines the level of respiratory protection needed. Where concentrations in air may exceed the occupational exposure limits given above and in Sections 2 & 5 (and those applicable to your area) and where engineering, work practices, or other means of exposure reduction are not adequate; NIOSH approved respirators may be necessary to prevent overexposure by inhalation. Use only NIOSH-certified, air purifying respirators with combination P- or R- vapor cartridges when concentration of vapor series particulate filters and organic or mist exceeds applicable exposure limits. DO NOT use N-Rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Protection by air purifying respirators is limited.

**AIR SAMPLING / TEST METHOD:** The applicable method measures oil mist. NIOSH Analytical Method No. 283 or S272. Air sampling for PNA's may be accomplished by NIOSH Methods 5506 & 5515 using glass fiber filter and XAD-2 tube for collection followed by analysis using gravimetric measurements and high pressure liquid chromatography (HPLC) with UV detection (5506) or gas chromatography with flame ionization detection.

**OTHER PROTECTIVE CLOTHING / EQUIPMENT:** Where spills and splashed are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area. Chemically resistant protective clothing and boot materials may include: PolyVinyl Chloride (PVC), Neoprene, Nitrile, Viton, Polyurethane. Contaminated clothing should be stored in well ventilated areas and precautions taken for possible spontaneous combustion. Affix warning labels, as needed, on containers in accordance with 29 CFR 1910.1200 (Hazard Communication Standard).

**WORK HYGIENIC PRACTICES:** Use good personal hygiene. Wash hands thoroughly with soap and water after handling product and before eating, drinking, using tobacco products, or using toilet facilities. Clean affected clothing, shoes, and protective equipment before reuse. Discard leather articles, such as shoes, saturated with this product. Do Not wear rings, watches, or similar apparel that could entrap the material and cause a skin reaction. Do not use gasoline, kerosene, solvents, or harsh abrasives as skin cleaners.

**(refer also to Sec. 3 & 5 for Other Exposure Limits)**

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

**APPEARANCE / STATE:** Viscous liquid.
**COLOR:** Light Amber to Dark Amber/Brown.
**ODOR:** Hydrocarbon; Petroleum.
**ODOR THRESHOLD:** Not Available.
**BOILING POINT:** Not Available.
**DENSITY:** 0.85 - 0.89 - kg/l @ 15 $^{o}$C (59 $^{o}$F).
**OCTANOL / $H_2O$ DIST. COEFF.:** Not Available.
**VAPOR DENSITY:** Not Available.
**VAPOR PRESSURE:** < 0.1 mmHg @ 68$^{o}$F (20$^{o}$C).
**VOLATILITY:** Not Available.
**pH:** Not Available.

**VISCOSITY:** 4.1-21.9 cSt @ 100 $^{o}$C (212 $^{o}$F).
**MELT/POUR POINT:** -32 to -7 $^{o}$C (-25 to +20 $^{o}$F).
**SOFTENING POINT:** Not Available.
**DROPPING POINT:** Not Available.
**PENETRATION:** Not Available.
**OIL / $H_2O$ DIST. COEFF.:** Not Available.
**MOLECULAR WT.:** Not Available.
**IONICITY (in $H_2O$):** Not Available.
**DISPERSION PROPERTIES:** Not Available.
**SOLUBILITY (in $H_2O$):** Negligible.
**EVAPORATION RATE:** Not Available.

## SECTION 10. STABILITY AND REACTIVITY:

**STABILITY:** Stable under normal handling and storage conditions. Not Reactive with water.
**CONDITIONS TO AVOID:** Extreme Heat, Sparks, and Flames.

**CORROSIVITY:** Copper corrosion, 3h, 100 $^{o}$C (ASTM D 0130): N/A (typical).
**MATERIALS TO AVOID:** Reactive with strong oxidizing agents, reducing agents, and/or acids.

**HAZARDOUS POLYMERIZATION:** Will not occur under normal working conditions.
**CONDITIONS TO AVOID:** None.

**HAZARDOUS DECOMPOSITION:**
Decomposition and combustion materials may be toxic. During fire or when heated to decomposition, the following materials may be produced: Smoke, irritating vapors, unidentified organic compounds, aldehydes, hydrogen sulfide ($H_2S$), alkyl mercaptans, sulfides; and oxides of Carbon Nitrogen, Phosphorus, Zinc, Calcium, Magnesium, and Sulfur.

## SECTION 11. TOXICOLOGICAL INFORMATION:

***NOTE : The information related in Section 11. Toxicological Information, for this product is not based upon actual tests of this product, but is based upon information and studies for similar products / product types. The information cited with an ( * ) is from tests conducted for this product.***

**ROUTES OF ENTRY:** Skin contact, eye contact, inhalation, and ingestion.

**ACUTE EFFECTS:** Based on toxicity of similar product(s)/component(s): **Based upon Petroleum Oils -**

**Acute Oral Toxicity ($LD_{50}$):** > 5000 mg/kg (rat).
**Acute Dermal Toxicity ($LD_{50}$):** > 2000 mg/Kg (rabbit).
**Acute Inhalation Toxicity ($LC_{50}$):** 2.18 mg/L/4Hr. (rat).
**Acute Eye Irritation:** N/A (Draize Score = N/A) (rabbit).
**Acute Skin Irritation:** N/A (Primary Irritation Index = N/A) (rabbit).

**CHRONIC EFFECTS:**

**Dermal Route:** Prolonged or repeated contact tends to remove skin oils which may cause skin irritation; characterized by dermatitis (drying & cracking) or oil acne. While this may result in skin irritation and dermatitis, the product is not believed to be either a "corrosive" nor an "irritant" by OSHA criteria.

**Inhalation Route:** Due to low volatility, inhalation is not likely. Mists from highly-refined mineral oils are reported to have low acute and sub-acute toxicities in animals. Exposures to lower concentrations at or below current workplace exposure levels produced no significant toxicological effects. However, prolonged or repeated inhalation of excessive amount of mists or fumes may cause irritation of the respiratory tract. Oil mists can cause oil droplet deposition in the lung which may result in oil/lipoid granuloma formation, fibrosis, inflammation, reduced pulmonary function, lipid pneumonia, and increased incidence of infection. High vapor/aerosol concentrations may cause CNS effects such as Dizziness, Headaches, or Drowsiness. Minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

**Oral Route:** May be harmful if swallowed and may cause irritation of GI Tract, vomiting, and diarrhea. Minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

**Ocular (Eye) Route:** May be irritating to eyes, no permanent damage.

**OTHER TOXICITY STUDIES:**

**SENSITIZATION:**

***-(Skin):*** Based on toxicity of severely hydrotreated base oil, it is not a skin sensitizer in guinea pig.
***-(Respiratory Tract):*** Not expected to be a respiratory tract sensitizer.

**CARCINOGENICITY:** (reportable quantities: >= 1.0%Wt. (0.1%Wt. for carcinogens):

| AGENCY | CARCINOGENIC MATERIAL CONTENT STATUS |
|---|---|
| **OSHA** | None @ Reportable Quantity |
| **IARC** | None @ Reportable Quantities as listed as Group 1, 2A, or 2B carcinogens.<br>## 1ppm Ethyl Acrylate (2-Propenoic Acid, Ethyl ester) [CAS No. 140-88-5].<br>### SEE FURTHER BELOW |
| **NTP** | None @ Reportable Quantity.<br>## 1ppm Ethyl Acrylate (2-Propenoic Acid, Ethyl ester) [CAS No. 140-88-5]. |
| **ACGIH** | None @ Reportable Quantities as listed as 1A or A2 carcinogens. |
| **IRIS** | Not Available |

## However, it does contain the listed carcinogenic material at the stated concentration below the Reportable Quantity (0.1%wt).

**### (IARC):** The base oil component of this product is **NOT** considered a potential carcinogen based upon similar base oil typical results of the IP-346 DMSO of less than 3.0%wt. The base oils used to manufacture this product were **SEVERELY HYDROTREATED** at greater than 800psi and do not require a cancer warning under OSHA Hazard Communication Standard (29CFR1910.1200). Similar base oils have not been listed in NTP reports, and are classified by IARC as having inadequate evidence of carcinogenicity. IARC indicates that based on preponderance of data **HIGHLY REFINED** mineral oils are not mutagenic either in vitro or in vivo. **SEVERELY HYDROTREATED** naphthenic petroleum oils have not been found to be carcinogenic or potential carcinogens.

**IMMUNOTOXICITY:** Not Available.

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** Not Available.

**MUTAGENICITY:** Based on actual test results of base oils and results of similar products, severely hydrotreated base oils give negative results when tested for:
a. Salmonella Typhimurium TA98 using the Modified Ames Assay for Petroleum Product.
b. Salmonella-Escherichia Coli / Mammalian -Microsome Reverse Mutation Assay (Ames test) with a Confirmatory Assay.
c. Mouse Skin Painting Bioassay using the Modified Ames Assay (IP-346) for Petroleum Product. **See IARC Carcinogenicity Section above.**
d. Structural Chromosomal Aberrations in Chinese Hamster Ovary (CHO) Cells.

**REPRODUCTIVE TOXICITY:** Based on the available animal data, severely hydrotreated base oils do not pose a reproductive risk.

**TERATOGENICITY / EMBRYOTOXICITY:** Based on the available animal data, severely hydrotreated base oils do not pose an embryotoxic / teratogenic risk.

**OTHER CONSIDERATIONS:** An API study has indicated that prolonged or repeated skin exposed to used motor oils can cause skin cancer.

Minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death. In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

**(refer also to Sec. 3 & 5 for Exposure Limits)**

## SECTION 12. ECOLOGICAL INFORMATION:

**ENVIRONMENTAL FATE:** An environmental fate analysis has not been conducted on this base oil. Plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway might be enough to cause a fish kill or create an anaerobic environment.
The base oil component of this product reaches less than 10% biodegradation in standard 28-day test and is not readily biodegradable in the environment.

| | |
|---|---|
| **PERSISTENCE/BIOACCUMULATION POTENTIAL:** | Not Available. |
| **OCTANOL / WATER PART. COEFF.:** | Not Available. |
| **VOLATILE ORGANIC COMPOUNDS (VOC):** | Negligible. |
| **$BOD_5$ and COD:** | Not Available. |
| **PRODUCTS OF BIODEGRADATION:** | Not Available. |
| **ECOTOXICITY:** | **Based upon Petroleum Oil Components -** |
| **Freshwater Fish:** | $\geq$ 79.6 mg/L (96Hr-$LC_{50}$ Brachydanio rerio / semi-static). |
| | $\geq$ 3.2 mg/L (96Hr-$LC_{50}$ Pimephales promelas / semi-static). |
| | $\geq$ 10,000 mg/L (96Hr-$LC_{50}$ Lepomis macrochirus / semi-static). |
| **Freshwater Invertebrates:** | Not Available. |
| **Algae:** | Not Available. |
| **Saltwater Fish:** | Not Available. |
| **Saltwater Invertebrates:** | Not Available. |
| **Bacteria:** | Not Available. |
| **Miscellaneous:** | Not Available. |

**ADDITIONAL REMARKS:** Analysis for ecological effects has not been conducted on this Product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also the coating action associated with petroleum products can be harmful or fatal to aquatic life and waterfowl.

**(refer also to Sec. 6, 13, & 15)**

## SECTION 13. DISPOSAL CONSIDERATIONS:

Do Not Discharge this product into public waters or waterways unless authorized by a National Pollution Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency (EPA).

In Eni's opinion, Unused / Uncontaminated product is not specifically listed by the EPA as a CERCLA / RCRA regulated hazardous waste or material. Therefore, it may be disposed of as an industrial waste in a manner acceptable to good waste management practice and in compliance with applicable local, state, and federal regulations. DO NOT flush material into drains or storm sewers.

Options for disposal of this product may depend on the conditions under which it was used. Spent / Used / Waste oil may meet the requirements of a hazardous waste. RCRA criteria (ignitability, reactivity, corrosivity, and toxicity-TCLP) must be determined if the material has been used. Refer to 40 CFR 261 (RCRA); as well as federal EPA, state, and local regulations.

Consult your local or regional authorities. Preferred waste management priorities are:

1. Recycle or reprocess.
2. Approved incineration with energy recovery.
3. Disposal at licensed waste disposal facility.

If recycled in the USA, this product must be managed in accordance with 40 CFR Part 279. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

Waste product and contaminated material will be considered a hazardous waste if the flash point is less than 140$^{o}$F requiring disposal at an approved hazardous waste facility.

Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your federal, local, state, & regional authorities. Transportation, treatment storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40CFR 260 through 40 CFR 271). Contact the RCRA/Superfund Hotline at 1-(800)-424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste.

**(refer also to Sec. 5, 6, 12, & 15)**

## SECTION 14. TRANSPORTATION INFORMATION:

**DOT:** NOT REGULATED.

**IMO:** NOT REGULATED.

**OTHER:**

| | |
|---|---|
| **IMDG CODE PROPER SHIPPING NAME:** | Not Evaluated. |
| **ICAO PROPER SHIPPING NAME:** | Not Evaluated. |
| **IATA PROPER SHIPPING NAME:** | Not Regulated. |
| **ADR/RID (Europe):** | Not Regulated. |

**(Pictograms)**

**PICTOGRAMS:** Under **TDG (Canada) & DOT (USA):**

**TRANSPORTATION INCIDENT INFORMATION:**

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation's North American Emergency Response Guidebook (NAERG) for Hazardous Materials Incidents:

| Relevant Listing(s): | Guide(s) |
|---|---|
| Oil, n.o.s., Flash Point > 200°F. | **171 - Substances (Low to Moderate Hazard)** |
| Environmentally Hazardous Substances, Liquid, n.o.s. | **171 - Substances (Low to Moderate Hazard)** |

## SECTION 15. REGULATORY INFORMATION:

**N/E=None Established, N/A=Not Applicable, N/D=Not Determined.**

**TOXIC SUBSTANCES CONTROL ACT (TSCA):** This Product is in compliance with TSCA (USC, Title 15, Chp. 53-I, Sec. 2601-2629). This product, as manufactured by Eni, does not contain polychlorinated biphenyls (PCB's). All components of this product are listed on the U.S. TSCA inventory or are exempt.

**CLEAN WATER ACT (CWA) / OIL POLLUTION ACT (OPA):** This product is classified as an OIL under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharges or spills into or leading to surface waters which produce a visible sheen on either surface water, or in waterways / sewers / intermittent dry creeks which lead to surface water, must be reported to the U.S. Coast Guard National Response Center at 1-800-424-8802. For additional detail, refer to SARA III, Sec. 304.

| Component (CAS#) | Listing |
|---|---|
| Toluene (108-88-3) | Listed |
| Benzene (71-43-2) | Listed |

**CLEAN AIR ACT (CAA):** The components of this product listed on the Regulated Chemicals for Accidental Release Prevention list in Section 112(r) of the Clean Air Act of 1990 (40 CFR 68) are as follows:

| Component (CAS#) | TQ (lbs) |
|---|---|
| Toluene (108-88-3) | Listed |
| Ethyl Acrylate (140-88-5) | Listed |
| Benzene (71-43-2) | Listed |

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA):**
**(40 CFR Part 302, Table 302.4)**

This product (as manufactured), if accidentally spilled, is not subject to special reporting under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act. However, it is recommended that you consult local and state authorities to determine if there may be other reporting requirements. For specific details, refer below to SARA Title III, Sec. 304.

**RESOURCE CONSERVATION and RECOVERY ACT (RCRA) Hazardous Waste: (40 CFR 261.33)**

| CAS NO. | COMPONENT | RCRA Hazardous Waste Code |
|---|---|---|
| 108-95-2 | Phenol | U188 |
| 108-88-3 | Toluene | U 220 |
| 140-88-5 | Ethyl Acrylate | U 113 |
| 71-43-2 | Benzene | U 019 |
| ALL OTHER COMPONENTS LISTED IN SECTION 2. | | NONE LISTED. |

**SUPERFUND AMENDMENTS REAUTHORIZATION ACT OF 1986 (SARA TITLE III):**

SARA requires disclosure of hazardous substances present at concentrations >=1.0%Wt. (>=0.1%Wt. For Carcinogens).

**Sec. 302 Extremely Hazardous Substances (EHS): (40 CFR Part 355, Appendix A, B)**

| Component (CAS#) | %Wt. max. | TPQ (lbs.) | Status as an EHS: |
|---|---|---|---|
| Phenol (108-95-2) | 0.01% | 500/10,000 | Listed. |
| ALL OTHER COMPONENTS LISTED IN SECTION 2. | 100.0% | N/E | NONE LISTED. |

**Sec. 304 CERCLA Hazardous Substances: (40 CFR Part 355, Appendix A, B)**

| Component (CAS#) | %Wt. max. | EHS RQ | CERCLA RQ | Status as a CHS: |
|---|---|---|---|---|
| Zinc Dialkyldithiophosphate (68649-42-3) | 1.0% | N/E | ** | Listed *** |
| Zinc Alkyldithiophosphate (4259-15-8) | 1.0% | N/E | ** | Listed *** |
| Zinc Alkyl Sulfonate (28016-00-4) | 0.02% | N/E | ** | Listed *** |
| Phenol (108-95-2) | 0.01% | 1000 lbs. | 1000 lbs. | Listed * |
| Toluene (108-88-3) | 0.013% | N/E | 1000 lbs. (Category C) | Listed |
| Ethyl Acrylate (140-88-5) | 1 ppm | N/E | 1000 lbs. (Category C) | Listed |
| Benzene (71-43-2) | 0.03 ppm | N/E | 10 lbs. (Category A) | Listed |
| ALL OTHER COMPONENTS LISTED IN SECTION 2. | | 99.0% | N/E | NONE LISTED. |

** 1000 lbs. Statutory RQ under CWA, Sec. 311(b)(4), Sec. 307(a), 1000 lbs. Final RQ. (Category B); under CAA, Sec. 112, under RCRA, Sec. 3001.*

*** 1 lbs. Statutory RQ under CWA, Sec. 311(b)(4); 100 lbs. Final RQ. (Category B).*

**** Zinc Compound class - although no RQ is assigned to this generic/broad class, the class is a CERCLA Hazardous Substance. However, since an RQ has not been assigned, reporting is not required under CERCLA.*

**Sec. 311 / 312 EPA Hazardous Chemical Reporting: (40 CFR Part 370)**

**EPA HAZARD REPORTING CATEGORIES:**

| ***Health:*** | | ***Physical:*** | |
|---|---|---|---|
| Immediate (Acute) | YES | Fire | NO |
| Delayed (Chronic) | YES | Sudden Release of Pressure | NO |
| | | Reactive | NO |
| | | Nuisance Mist / Dust Only | NO |

**Sec. 313 Toxic Chemical Release Reporting: (40 CFR Part 372)**

| Component (CAS#) | %Wt. max. | Status as Toxic: |
|---|---|---|
| Zinc Dialkyldithiophosphate (68649-42-3) | 1.0% | Listed. |
| Zinc Alkyldithiophosphate (4259-15-8) | 1.0% | Listed. |
| Zinc Alkyl Sulfonate (28016-00-4) | 0.02% | Listed. |
| Phenol (108-95-2) | 0.01% | Listed. |
| Toluene (108-88-3) | 0.013% | Listed. |
| Ethyl Acrylate (140-88-5) | 1 ppm | Listed. |
| Benzene (71-43-2) | 0.03 ppm | Listed. |
| ALL OTHER COMPONENTS LISTED IN SECTION 2. | 99.0% | NONE LISTED. |

**CA PROPOSITION 65:**

The following component(s) of this material is/are known to the state of California to cause cancer[1] and/or birth defects or other reproductive harm[2] (based upon maximum impurity levels of components):

THE FOLLOWING IMPURITIES MAY BE PRESENT IN DETECTIBLE AMOUNTS:

| | | | | | |
|---|---|---|---|---|---|
| [1, 2] | 7440-38-2 | Arsenic | [1] | 207-08-9 | benzo(k)fluoranthracene |
| [1, 2] | 7440-43-9 | Cadmium | [1] | 50-32-8 | benzo(a)pyrene |
| [1, 2] | 7439-92-1 | Lead | [1] | 218-01-9 | chrysene |
| [1, 2] | 71-43-2 | Benzene | [1] | 53-70-3 | dibenz(a,h)anthracene |
| [1] | 56-55-3 | benzo(a)anthracene | [1] | 193-39-5 | indeno(1,2,3-cd)pyrene |
| [1] | 205-99-2 | benzo(b)fluoranthracer | [1] | 7440-*47-3 | Chromium |
| [1] | 62-53-3 | Aniline | [1] | 123-91-1 | 1, 4-Dioxane |
| [1] | 140-88-5 | Ethyl Acrylate | [1, 2] | 75-21-8 | Ethylene Oxide |
| [1] | 91-95-8 | Betanaphthylamine | [1] | 75-56-9 | Propylene Oxide |
| [1] | 95-53-4 | Orthotoluidine | [2] | 108-88-3 | Toluene |

***Note:*** *An evaluation of all components of this product for California Proposition 65 is not routinely performed.*

**PA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (PA Act 159-1984):**

The following component(s) of this material is/are listed as Hazardous Substance(s) under the Act on the PA Hazardous Substance List:

| CAS NO. | RELEVANT COMPONENT / LISTING | PA HAZARD Note |
|---|---|---|
| (8002-05-9; 8020-83-5) (see Oil CAS#s below): | Severely Hydrotreated Paraffinic Hydrocarbons (Oil); Solvent Refined Paraffinic Hydrocarbons (Oil); Solvent Dewaxed Residual Oils (Petroleum Distillates; Petroleum; Hydrocarbon Oils): | Listed |
| 64741-88-4 | Distillates (Petroleum), Solvent-Refined Heavy Paraffinic | Listed |
| 64741-89-5 | Distillates (Petroleum), Solvent-Refined Light Paraffinic | Listed |
| 64741-95-3 | Residual oils (petroleum), solvent deasphalted (Oil) | Listed |
| 64742-01-4 | Residual Oils (Petroleum), Solvent-Refined | Listed |
| 64742-46-7 | Distillates (Petroleum), Hydrotreated Middle | Listed |
| 64742-47-8 | Distillates (Petroleum), Hydrotreated Light | Listed |
| 64742-53-6 | Distillates (Petroleum), Hydrotreated Light Naphthenic | Listed |
| 64742-54-7 | Distillates (Petroleum), Hydrotreated Heavy Paraffinic | Listed |
| 64742-55-8 | Distillates (Petroleum), Hydrotreated Light Paraffinic | Listed |
| 64742-57-0 | Residual Oils (Petroleum), Hydrotreated | Listed |
| 64742-58-1 | Lubricating Oils (Petroleum), Hydrotreated Spent | Listed |
| 64742-62-7 | Residual Oils (Petroleum), Solvent-Dewaxed | Listed |
| 64742-65-0 | Petroleum Distillates, Solvent Dewaxed Heavy Paraffinic (Oil) | Listed |
| 72623-83-7 | Lubricating Oils (Petroleum), C>25, Hydrotreated Bright Stock-Based | Listed |
| 72623-84-8 | Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based, Contg. Solvent Deasphalted Residual Oil | Listed |
| 72623-85-9 | Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based, High-Viscosity | Listed |
| 72623-86-0 | Lubricating Oils (Petroleum), C15-30, Hydrotreated Neutral Oil-Based | Listed |
| 72623-87-1 | Lubricating Oils (Petroleum), C20-50, Hydrotreated Neutral Oil-Based | Listed |
| 178603-64-0 | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C15-30, Branched and Cyclic | Listed |
| 178603-65-1 | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C20-40, Branched and Cyclic | Listed |
| 178603-66-2 | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C25-55, Branched and Cyclic | Listed |
| 445411-73-4 | Gas Oils (Petroleum), Vacuum, Hydrocracked, Hydroisomerized, Hydrogenated, C10-25, Branched and Cyclic | Listed |
| N/D-1 (8042-47-5) | White Mineral Oil (Petroleum) | Listed |
| N/A | Mineral Oil Mist | Listed |
| (7440-66-6) * | (Zinc & Zinc Compounds) * | (EH) * |

| | | |
|---|---|---|
| 68649-42-3 | Phosphorodithioic Acid, O, O-Di-C1-14-Alkyl Esters, Zinc salts. [aka. Zinc Dialkyldithiophosphate] | EH * |
| 4259-15-8 | Zinc, bis[O,O-bis(2-ethylhexyl) phosphorodithioato-.kappa.S,.kappa.S']-, (T-4)-. [aka. Zinc Alkyldithiophosphate] | EH * |
| 28016-00-4 | Naphthalenesulfonic acid, dinonyl-, zinc salt (2:1). [aka. Zinc Alkyl Sulfonate] | EH * |
| 108-95-2 | Phenol | EH |
| 71786-47-5 | Benzenesulfonic acid, mono- and dialkyl derivs., magnesium salts. [aka. Magnesium Alkyl Sulfonate] | Not Listed |
| N/D-2 | Calcium Alkyl Sulfonate | Not Listed |
| N/D-3 | Calcium AlkAryl Sulfonate | Not Listed |
| N/D-4 (68784-26-9) | Calcium Long-chain Alkylphenate Sulfide (Phenol, Dodecyl-, Sulfurized, Carbonates, Calcium Salts, Overbased). [aka. Calcium Long-chain Alkylphenate Sulfide] | Not Listed |
| N/D-3 | Butylated Phenol | Not Listed |
| 101-02-0 | Phosphorous Acid, Triphenyl Ester. [aka. Aryl Phosphite] | Not Listed |
| N/D-6 | Long-Chain Alkenyl Succinimide | Not Listed |
| 104-43-8 | Phenol, 4-Dodecyl- | Not Listed |
| 74499-35-7 | Phenol, (Tetrapropenyl) Derivs. [aka. AlkylPhenol] | Not Listed |
| 71-43-2 | Benzene | EH, SHS |
| 108-88-3 | Benzene, Methyl-. [aka. Toluene] | EH |
| 140-88-5 | 2-Propenoic Acid, Ethyl Ester. [aka. Ethyl Acrylate]. | EH, SHS |
| N/D-7 | Acrylate Ester | Not Listed |
| (68954-12-1) | (2-Butenedioic Acid (2E)-, Di-C8-18-Alkyl Esters, Polymers with Vinyl Acetate) | Not Listed |
| 104-76-7 | 2-Ethyl-1-Hexanol | Listed |
| 9003-29-6 | Butene, Homopolymer (aka. Polyisobutylenes) | Listed |
| 9010-79-1 | 1-Propene, Polymer with Ethene (aka. Propylene-Ethylene Copolymer VI) | Listed |

Listed=PA Hazardous Substance, EH=PA Environmental Hazard, SHS=PA Special Hazardous Substance.

**C EPA / WHMIS: (Canada)** We believe that this product's components are acceptable for use in Canada under the provisions of Workplace Hazardous Material Information System (WHMIS) - Controlled Products Regulations (CPR). All components of this formulation are believed to be listed on the Domestic Substances List (DSL).

This product is believed to be classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS is believed to contain all the information required by the CPR.

***Note*: An evaluation of all components of this product for Canadian regulations is not routinely performed, and may be incomplete or incorrect. It is the responsibility of the receiver/end-user to verify it's compliance with any Hazard Communication or other regulations within their own geographic/regulatory jurisdiction.**

**US EPA:** All components of this formulation are listed on or exempted from the TSCA Inventory of the US Environmental Protection Agency.

**DSD/DPD (EEC):** This product has not been evaluated for the Dangerous Substances or Dangerous Preparations Directives (Europe).

## SECTION 16. OTHER INFORMATION:

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):**

| Health | Flammability | Reactivity | Personal | BASIS |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | 1 | 0 | B, X | Recommended by Eni USA R&M |

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 704) - HAZARD IDENTIFICATION:**

| Health | Flammability | Reactivity | Specific | BASIS |
|---|---|---|---|---|
| 1 | 1 | 0 | -- | Recommended by Eni USA R&M |

**KEYS:** 4=Severe; 3=Serious; 2=Moderate; 1=Slight; 0=Minimal

The Environmental Information included under Section 15, as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings in Section 16, have been included by Eni in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria of the developers of these ratings systems, together with Eni's interpretation of the available data.

The health and safety information presented herein must be used in conjunction with the pertinent standards for training, work practices, and facilities design established by OSHA, NIOSH, NFPA, API, NEC NSC, UNDERWRITERS, BUREAU OF MINES, and similar organizations.

The information and recommendations contained herein are offered for the user's consideration and examination; and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

**DISCLAIMER:**

Although the information and recommendations set forth herein ("Information") are presented in good faith and believed to be correct as of the date hereof, Eni USA R&M Co. Inc., makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. NO REPRESENTATIONS OF WARRANTIES, EITHER EXPRESSED OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

**MSDS REVISION:** **4/1/2013** NEW **SUPERSEDES:** 2/1/2012
**FORMERLY:** Non-Detergent Motor Oil, All SAE Grades (Single)

**DATA DATE:** **2/1/2012** **SUPERSEDES:** 10/1/2010

**MSDS Prepared by:** W.G.Wagner

NON-EMERGENCY INFORMATION:

Eni USA R&M Co. Inc.
539 Marwood Road
Cabot, PA 16023
1-800-922-9243

**THIS MATERIAL SAFETY DATA SHEET CONTAINS THE INFORMATION REQUIRED TO COMPLY WITH THE FEDERAL OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 (g) (2).**

RAMSEY
THE COMPLETE CARPET CARE SYSTEM

**MATERIAL SAFETY DATA SHEET**
4-430

**Manufacturer's Name:** RAMSEY
**Address** : 24020 S. Frampton Ave.
Harbor City, CA 90710

**Telephone Number** : (213) 775-7547

**Person Responsible for Preparation:** Larry Eaton

**Date Prepared:** August 7, 1986

## IDENTITY

**Common Name** STATIC CONTROL

## INGREDIENT INFORMATION

| Principal Hazardous Component (s) | CAS No. | % | Threshold Limit |
|---|---|---|---|
| Isopropyl alcohol | 67-63-0 | 3-5 | 400 ppm |

## PHYSICAL & CHEMICAL CHARACTERISTICS

**Boiling Point** 204°F **Specific Gravity** 1.01 **Vapor Pressure** ND

**Percent Volatile by Volume** 97 **Vapor Density** ND

**Evaporation Rate** ND

**Solubility in Water** Complete **pH** 6.9

**Appearance and Odor** Clear liquid; mild fragrance

**Flash Point** 125°F **Extinguisher Media** Water, dry chemical, $CO_2$, foam

**Special Fire Fighting Procedures**

In case of fire, cool uninvolved containers with water.

**Unusual Fire and Explosion Hazards**

None known to Ramsey.

**ND=Not Determined, NE=Not Established, NA=Not Applicable**

## REACTIVITY DATA

**Stability** Stable **Conditions to Avoid** None known to Ramsey.

**Incompatability** None known to Ramsey.

**Hazardous Decomposition Products** Normal products of combustion.

**Hazardous Polymerization** Will Not Occur
**Conditions to Avoid** None known to Ramsey.

## HAZARD DATA

**Signs and Symptoms of Exposure**
Direct contact of product with eyes may cause irritation. Inhalation of vapor or mist may irritate respiratory tract. Prolonged or repeated contact with skin may cause irritation. Preexisting eye, skin and respiratory disorders may be aggravated.

**Chemicals Listed as Carcinogens or Potential Carcinogens**
None

**Emergency and First Aid Procedures**
1. **Inhalation** Remove to fresh air. Call a physician if symptoms persist.
2. **Eyes** Flush with water for at least 15 minutes. Call a physician.
3. **Skin** Flush with water. Call a physician if irritation develops.
4. **Ingestion** Drink large quantities of water. Do not induce vomiting. Call a physician.

## SPECIAL PROTECTION INFORMATION

**Respiratory Protection** None required if good ventilation is maintained.
**Protective Gloves** If prolonged or repeated contact is possible, wear rubber or other impervious gloves.
**Eye Protection** Where eye contact may be a problem, wear chemical splash goggles.

## SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

**Handling and Storage** Use good personal hygiene practice. Wash contaminated clothing and equipment before reuse.
**Release or Spill** Before attempting clean-up, refer to Hazard Data above. Use mop or wet vacuum to collect material for proper disposal. Rinse area with water.
**Waste Disposal** Dispose of this material in accordance with federal, state and local regulations.

**The information on this data sheet represents our current data and best opinion as to the proper use in handling of this product under normal conditions. Any use of the product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.**

## *Material Safety Data Sheet*

| **Section 1.** | **CHEMICAL PRODUCT SECTION** |
|---|---|

*Identification:* Product Name: STATICIDE® General Purpose
Product Number: #2001, #2003, #530, #2001-5 & #2001-2

*Recommend use:* Anti-static topical for hard surfaces

*Manufacturer:*
ACL Incorporated
840 W. 49th Place
Chicago, IL 60609

PH: (01) 847.981.9212 [U.S.A.]
FAX: (01) 847.981.9278 [U.S.A.]

*Emergency telephone:* INFOTRAC: (01) 800.535.5053 (day or night)

| **Section 2.** | **HAZARDOUS IDENTIFICATION** |
|---|---|

NFPA HAZARD RATING: (**0**) Fire (**1** ) Health (**0**) Reactivity

Potential Health Effects:
**Inhalation:** No observable effects of overexposure.
**Eyes:** May cause mild irritation.
**Skin**: Non-irritating under normal usage.
**Ingestion:** Nausea and diarrhea are possible.

GHS:
**Environmental-** Not Classified
**Physical**: Not Classified

| **Section 3.** | **COMPOSITION / INFORMATION ON INGREDIENTS** |
|---|---|

| **CHEMICAL** | **C.A.S. Number** | **EC Number** | **Weight %** |
|---|---|---|---|
| Deionized Water | 7732-18-5 | 231-791-2 | 95-99 |
| Isopropanol | 67-63-0 | 200-661-7 | < .5 |

| **Section 4.** | **FIRST AID MEASURES** |
|---|---|

**Inhalation:** Move to fresh air and contact a physician if necessary.

**Eye Contact**: Flush eyes with large amounts of water for 15 minutes or until irritation subside. If irritation persists, get medical attention.

**Skin Contact:** Wash with soap and water.

**Ingestion:** Drink copious amounts of water/milk. And seek medical attention.

| **Section 5.** | **FIRE FIGHTING MEASURES** |
|---|---|

Flash Point & Method: None, T.C.C.
Flammable Limits: LEL: NA UEL: NA Autoignition Temperature: NA

Fire Fighting Instructions: None
Fire Fighting Equipment: None
Hazardous Combustion Products: None

## Section 6. ACCIDENTAL RELEASE MEASURES

Land spill: Absorb spill and place in an appropriate waste container.

## Section 7. HANDLING AND STORAGE

Handling: Wash thoroughly after handling.
Storage Temperatures: Ambient (40° - 90° F)
Storage Pressure: Atmospheric
General: Keep container closed when not in use. Store in cool, well ventilated place out of direct sunlight and away from incompatible materials. (See STABILITY AND REACTIVITY Section 10). Follow all MSD sheet and Label warnings even after container is emptied.

## Section 8. EXPOSURE CONTROL / PERSONAL PROTECTION

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Exposure Limits 8 Hours TWA (PPM)

| | OSHA PEL | ACGIH TLV |
|---|---|---|
| Isopropanol | 400 ppm | 400 ppm |

Engineering Controls: Local Exhaust ventilation acceptable
Eye Protection: Safety Glasses

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Density……0.99.
Boiling Point…….. 100C / 212F
Freezing Point…… …LT 0
Vapor Density (Air=1)… NE
Solubility in Water…...…100
Molecular Weight……NE (mixture)
Non-Exempt VOC (g/1).. < 3.6
Appearance: Clear pale yellow

pH……..…7.5
% Volatile……>90
% Solids……..NE
Evaporation Rate (H2O=1)…1 est
Viscosity……..NA
Physical State……..Liquid
Odor……Pleasant

## Section 10. STABILITY AND REACTIVITY

General: Stable
Incompatible Materials and Conditions to Avoid: None
Hazardous Decomposition: Unknown.

## Section 11. TOXICOLOGY INFORMATION

Results of Component Toxicity Test Performed:
$LD_{50}$ / $LC_{50}$ Rabbit (dermal) 16,000 mg/kg (Isopropanol).

OSHA / NTP / DHHS - This product does not contain chemicals on the 11th Report on Carcinogens (RoC)
NIOSH: None of the chemicals are listed on the NIOSH carcinogen list.

## Section 12. ECOLOGICAL INFORMATION

$LC_{50}$ Fish (96 hours) 100 mg/l (Isopropanol)
$LC_{50}$ Zebrafish (96 hours) 2.4 mg/l (Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)methyl,chlorides)

**Section 13. DISPOSAL CONSIDERATIONS**

RCRA 40 CFR 261 Classifications:

As packaged, if this product becomes a waste, it does not meet the criteria of a hazardous waste as defied under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it has neither the characteristics of Subpart C nor is listed in Subpart D.

Federal, State, and Local laws governing disposal of material can differ.
Ensure proper disposal compliance with proper authorities before disposal.

**Section 14. TRANSPORTATION INFORMATION**

U.S. DOT Information: Basic Description: NON HAZARDOUS MATERIAL
IATA: Proper Shipping Name: NON HAZARDOUS MATERIAL

**Section 15. REGULATORY INFORMATION**

United States Federal Regulations:
MSDS complies with the OSHA Hazard Communication Rule, 29 CFR 1910.1200.

CERCLA/Superfund, 40 CFR 117, 302: None of the chemicals are Section 302 hazards

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:
Section 302 – Extremely hazardous substances (40 CFR 355):
---None of the chemicals are Section 302 hazards ---

Section 311/312 – Material Safety Data Sheet Requirements (40 CFR 370):
By our hazard evaluation, this product is non-hazardous.

Section 313 – List of Toxic Chemicals (40CFC 372):
---None of the chemicals are 313 Toxic Chemicals ---

Toxic Substance Control Act (TSCA): **All substances are TSCA listed.**

Resource Conservation and Recovery Act (RCRA 40 CFR 261) Subpart C & D:
Refer to Section 13 for RCRA classification.

Federal Water Pollution Control Act, Clean Water Act, 40 CFR 401.15 (formerly section 307) 40 CFR 116 (formerly section 311) ---None of the chemicals are listed ---
Clean Air Act: --- No Information ---

STATE REGULATIONS:
California Proposition 65: --- None of the chemicals are on the Proposition 65 list---

INTERNATIONAL REGULATIONS:
**Canada WHMIS:**
904 (*1050 FR*) Isopropanol is listed on Ingredient Disclosure List (SOR/88-64)

| **Sections 16.** | **OTHER INFORMATION** |
|---|---|

LABEL INFORMATION:

For Shipping Label information refer to section 14
Product label warnings are as follows (Comparable CHIP Safety & Risk phrases are noted):

- Keep out of the reach of children (S2)

REVISION DATES, SECTIONS, REVISED BY:

| | |
|---|---|
| 15-FEB-92, | Original release date |
| 02-APR-01, | Reviewed |
| 18-Feb-04, | New Format, mkb |
| 31-Jan-07 | Section 11 & 12, mkb |
| 28-Aug-09 | New address, Reach format, mkb |

ABBREVIATIONS USED: NE – Not Established, NA – Not Applicable, NIF – No Information Found

ABRIDGED LIST OF REFERENCES:

Code of Federal Regulations (CFR)
The Sigma-Aldrich Library of Regulatory and Safety Data
Chemical Guide and OSHA Hazardous Communication Standard
The Environmental Protection Agency (www.epa.gov)
American National Standards Institute

To the best of our knowledge, the information contained herein is accurate.
**However, neither ACL STATICIDE nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

**Safety Data Sheet (91/155/EEC)**
ITW Dykem
Revision date: 11.10.2006 No.: 2,00
**STEEL BLUE LAYOUT FLUID**
00392-0025

## 1. Identification of the substance/preparation and company

**1.1 Commercial product name**
STEEL BLUE LAYOUT FLUID

**Art.-No.:**
80200, 80300, 80400, 80600, 80800, 80900

**Use of the substance/preparation**
Paint

**1.2 Information manufacturer/supplier**
ITW Dykem
805 E. Old 56 Highway
Olathe, KS 66061
Telephone: 001 913 397 9889 Telefax: 001 913 397 8761
24 Hour Emergency Contact: 001 352 323 3500

## 2. Composition/information on ingredients

**Chemical characterization : ( preparation )**
Preparation in organic solvents

**Hazardous components**
(Full text of each relevant R phrase can be found in heading 16)

| EC No. | CAS No. | Components | Value | Symbols R-phrases |
|---|---|---|---|---|
| 200-661-7 | 67-63-0 | propan-2-ol | < 5 % | F, Xi R11-36-67 |
| 203-686-1 | 109-60-4 | propyl acetate | < 5 % | F, Xi R11-36-66-67 |
| 204-658-1 | 123-86-4 | n-butyl acetate | 20 - 30 % | R10-66-67 |
| 200-578-6 | 64-17-5 | ethanol | 30 - 50 % | F R11 |
| 200-751-6 | 71-36-3 | butan-1-ol | < 20 % | Xn, Xi R10-22-37/38 41-67 |

## 3. Hazards identification

Symbols : Highly flammable, Irritant
R-phrases :
Highly flammable.
Risk of serious damage to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

## 4. First aid measures

**General information**
Remove contaminated soaked clothing immediately.
If you feel unwell, seek medical advice.

**After inhalation**
Move to fresh air in case of accidental inhalation of vapours.
Consult a physician.
If patient is not breathing, apply artificial respiration.

**After contact with skin**
Wash off immediately with soap and plenty of water.
Consult a doctor if skin irritation persists.

**After contact with eyes**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

**After ingestion**
Do not induce vomiting.
Summon a doctor immediately..
Never give anything by mouth to an unconscious person.
If a person vomits when lying on his back, turn over on his side.

## 5. Fire-fighting measures

**Suitable extinguishing media**
Alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water-spray

**Extinguishing media that must not be used for safety reasons**
Full water jet

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**
Fire may produce:
Carbon monoxide and carbon dioxide.

**Special protective equipment for firefighters**
Wear self-contained breathing apparatus and protective suit.

**Additional information**
Vapours are heavier than air and spread along ground.
The vapour/air mixture is explosive, even in empty, uncleaned receptacles.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.

## 6. Accidental release measures

**Personal precautions**
In case of vapour formation use respirator.
Use only explosion-proof equipment.
Ensure adequate ventilation.
Remove persons to safety.
Use personal protective clothing.

**Environmental precautions**
Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning up/taking up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.

**Additional information**
Clean contaminated surface thoroughly.

## 7. Handling and storage

### 7.1 Handling

**Advice on safe handling**
Keep container tightly closed.
Vapours are heavier than air and spread along ground.
Avoid contact with the skin and the eyes.
Use only in thoroughly ventilated areas.

**Advice on protection against fire and explosion**
Keep away from heat and sources of ignition.
Do not smoke.
Take precautionary measures against static discharges.

### 7.2 Storage

**Requirements for storage rooms and vessels**
Keep container tightly closed in a dry, cool and well-ventilated place.
Pay attention to anti-explosion rules.

**Advice on storage compatibility**
Incompatible with:
strong oxidizing agents, reducing agents, acids and bases

**Further information on storage conditions**
Keep away from food, drink and animal feeding stuffs.

**Storageclass (VCI):** 3 A

## 8. Exposure controls/personal protection

### 8.1 Exposure limit values

**Exposure limits (EH40)**

| Components<br>CAS No. | Exposure limit<br>ml/m³ | mg/m³ | F/ml | Category | Origin |
|---|---|---|---|---|---|
| Propan-2-ol | | | | | |
| 67-63-0 | 400 | 999 | | TWA (8 h) | OES |
| | 500 | 1250 | | STEL (15 min) | OES |
| n-Propyl acetate | | | | | |
| 109-60-4 | 200 | 849 | | TWA (8 h) | OES |
| | 250 | 1060 | | STEL (15 min) | OES |
| Butyl acetate | | | | | |
| 123-86-4 | 150 | 724 | | TWA (8 h) | OES |
| | 200 | 966 | | STEL (15 min) | OES |
| Ethanol | | | | | |
| 64-17-5 | 1000 | 1920 | | TWA (8 h) | OES |
| | - | - | | STEL (15 min) | OES |
| Butan-1-ol | | | | | |
| 71-36-3 | - | - | | TWA (8 h) | OES |
| | 50 | 154 | | STEL (15 min) | OES |

### 8.2 Exposure controls

**Occupational exposure controls**
Ensure adequate ventilation, especially in confined areas.

**Protective and hygiene measures**
Wash hands before breaks and immediately after handling the product.
When using, do not eat, drink or smoke.
Take off immediately all contaminated clothing.
Avoid contact with skin, eyes and clothing.
Do not inhale vapours.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

**Hand protection**
Splash protection:
Protective gloves resistant to chemicals made off butyl, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) > 60 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

**Eye protection**
Tightly fitting goggles
Eye wash bottle with pure water

**Body protection**
Chemical resistant apron
Long sleeved clothing.

## 9. Physical and chemical properties

### 9.1 Appearance

Form: liquid Colour: blue Odour: sweetish

### 9.2 Important health, safety and environmental information

| | | Test method |
|---|---|---|
| **Changes in the physical state** | | |
| Boiling point: | 76 - 125 °C | |
| Flash point: | 11 °C | |
| Ignition temperature: | n.d. °C | |
| Lower Explosion limit: | 1,4 vol. % | |
| Upper Explosion limit: | 19,0 vol. % | |
| Vapour pressure: (at 20 °C) | n.d. hPa | |
| Density: (at 20 °C) | 0,85 g/ml | |
| Water solubility: (at 20 °C) | partially miscible g/l | |

Vapour density: > 1

**Solvent content**
< 95 %

**Further information**

## 10. Stability and reactivity

**Conditions to avoid**
Vapours may form explosive mixture with air.

**Materials to avoid**
strong oxidizing agents, reducing agents, acids and bases

**Hazardous decomposition products**
Carbon monoxide and carbon dioxide

**Additional information**
No decomposition if stored and applied as directed.

## 11. Toxicological information

**Empirical data on effects on humans**
risk of strong eye injuries
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**Additional information**
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Effects of breathing high concentrations of vapour may include
headache, dizziness, weakness, unconsciousness
Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

## 12. Ecological information

**Additional information**
Do not flush into surface water or sanitary sewer system.
Slightly water hazardous.

## 13. Advice on disposal

**Dispose**
Where possible recycling is preferred to disposal.
Can be incinerated, when in compliance with local regulations.

**Waste disposal number of Waste from residues / unused product : 080111**
WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances
Classified as hazardous waste.

**Contaminated packaging**
Empty containers should be taken for local recycling, recovery or waste disposal.
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

## 14. Transport information

### 14.1 Land transport (ADR/RID)

| | |
|---|---|
| ADR/RID: | 3 |
| Hazard-no.: | 33 |
| UN number: | 1263 |
| Hazard label: | 3 |
| ADR packaging group: | II |

**Description of the goods:**
PAINT

**Remarks**
"LQ 4: combination packaging: 3 l / 12 l; trays: 1 l / 12 l (20 kg total gross mass)"

### 14.2 Inland waterways transport

### 14.3 Marine transport

| | |
|---|---|
| IMDG-Code: | 3 |
| UN number: | 1263 |
| EMS: | F-E; S-E |
| Packaging group: | II |
| Marine pollutant: | No |

**Description of the goods**
PAINT

Hazard label: 3

**Remarks**
Limited quantities (chapter 3.4): combination packaging: 1 l / 30 kg (total gross mass); trays: 1 l / 20 kg (total gross mass)

### 14.4 Air transport

| | |
|---|---|
| ICAO/IATA-DGR: | 3 |
| UN/ID number: | 1263 |
| Hazard label: | 3 |

| | |
|---|---|
| IATA-packing instructions - passenger: | 305 |
| IATA-max. quantity - passenger: | 5 L |
| IATA-packing instructions - Cargo: | 307 |
| IATA-max. quantity - Cargo: | 60 L |

ICAO-packaging group: II

**Description of the goods**
PAINT

**14.5 Further Information**

## 15. Regulatory information

**15.1 Labelling**

**Indication of danger**
F - Highly flammable; Xi - Irritant

**Labelling according to EC-guidelines**
According to EC-regulations the product is to be labelled as follows:

**R phrases**
11-41-66-67
Highly flammable.
Risk of serious damage to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**S phrases**
09-16-23-26-35-39
Keep container in a well-ventilated place.
Keep away from sources of ignition - No smoking.
Do not breathe vapour .
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
This material and its container must be disposed of in a safe way.
Wear eye/face protection.

**15.2 National regulations**

| | |
|---|---|
| Water contaminating class: | 1 - slightly water contaminating |
| 1999/13/EC (VOC): | < 95 % |

## 16. Other information

**List of relevant R phrases**

| | |
|---|---|
| 10 | Flammable. |
| 11 | Highly flammable. |
| 22 | Harmful if swallowed. |
| 36 | Irritating to eyes. |
| 41 | Risk of serious damage to eyes. |
| 66 | Repeated exposure may cause skin dryness or cracking. |
| 67 | Vapours may cause drowsiness and dizziness. |
| 37/38 | Irritating to respiratory system and skin. |

**Other data**
Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
"(n.a. = not applicable; n.d. = not determined)"

**Safety Data Sheet (91/155/EEC)**
ITW Dykem
Revision date: 11.10.2006 No.: 2,00
**STEEL RED LAYOUT FLUID**
00392-0018

## 1. Identification of the substance/preparation and company

**1.1 Commercial product name**
STEEL RED LAYOUT FLUID

**Use of the substance/preparation**
Paint

**1.2 Information manufacturer/supplier**
ITW Dykem
805 E. Old 56 Highway
Olathe, KS 66061
Telephone: 001 913 397 9889 Telefax: 001 913 397 8761
24 Hour Emergency Contact: 001 352 323 3500

## 2. Composition/information on ingredients

**Chemical characterization : ( preparation )**
Preparation in organic solvents

**Hazardous components**
(Full text of each relevant R phrase can be found in heading 16)

| EC No. | CAS No. | Components | Value | Symbols R-phrases |
|---|---|---|---|---|
| 200-578-6 | 64-17-5 | ethanol | 30 - 50 % | F R11 |
| 204-658-1 | 123-86-4 | n-butyl acetate | 30 - 50 % | R10-66-67 |
| 200-751-6 | 71-36-3 | butan-1-ol | < 10 % | Xn, Xi R10-22-37/38 41-67 |
| 200-661-7 | 67-63-0 | propan-2-ol | < 5 % | F, Xi R11-36-67 |
| 204-626-7 | 123-42-2 | 4-hydroxy-4-methylpentan-2-one | < 5 % | Xi R36 |
| 203-686-1 | 109-60-4 | propyl acetate | < 5 % | F, Xi R11-36-66-67 |

## 3. Hazards identification

Symbols : Highly flammable, Irritant
R-phrases :
Highly flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

## 4. First aid measures

**General information**
Remove contaminated soaked clothing immediately.
If you feel unwell, seek medical advice.

**After inhalation**
Move to fresh air in case of accidental inhalation of vapours.
Consult a physician.
If patient is not breathing, apply artificial respiration.

**After contact with skin**
Wash off immediately with soap and plenty of water.
Consult a doctor if skin irritation persists.

**After contact with eyes**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

**After ingestion**
Do not induce vomiting.
Summon a doctor immediately..
Never give anything by mouth to an unconscious person.
If a person vomits when lying on his back, turn over on his side.

## 5. Fire-fighting measures

**Suitable extinguishing media**
Alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water-spray

**Extinguishing media that must not be used for safety reasons**
Full water jet

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**
Fire may produce:
Carbon monoxide and carbon dioxide.

**Special protective equipment for firefighters**
Wear self-contained breathing apparatus and protective suit.

**Additional information**
Vapours are heavier than air and spread along ground.
The vapour/air mixture is explosive, even in empty, uncleaned receptacles.
Cool containers at risk with water spray jet.
Collect contaminated firefighting water separately, must not be discharged into the drains.

## 6. Accidental release measures

**Personal precautions**
In case of vapour formation use respirator.
Use only explosion-proof equipment.
Ensure adequate ventilation.
Remove persons to safety.
Use personal protective clothing.

**Environmental precautions**
Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning up/taking up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.

**Additional information**
Clean contaminated surface thoroughly.

## 7. Handling and storage

### 7.1 Handling

**Advice on safe handling**
Keep container tightly closed.
Vapours are heavier than air and spread along ground.
Avoid contact with the skin and the eyes.
Use only in thoroughly ventilated areas.

**Advice on protection against fire and explosion**
Keep away from heat and sources of ignition.
Do not smoke.
Take precautionary measures against static discharges.

### 7.2 Storage

**Requirements for storage rooms and vessels**
Keep container tightly closed in a dry, cool and well-ventilated place.
Pay attention to anti-explosion rules.

**Advice on storage compatibility**
Incompatible with oxidizing agents.

**Further information on storage conditions**
Keep away from food, drink and animal feeding stuffs.

**Storageclass (VCI):** 3 A

## 8. Exposure controls/personal protection

### 8.1 Exposure limit values

**Exposure limits (EH40)**

| Components<br>CAS No. | Exposure limit<br>ml/m³ | mg/m³ | F/ml | Category | Origin |
|---|---|---|---|---|---|
| Ethanol | | | | | |
| 64-17-5 | 1000 | 1920 | | TWA (8 h) | OES |
| | - | - | | STEL (15 min) | OES |
| Butyl acetate | | | | | |
| 123-86-4 | 150 | 724 | | TWA (8 h) | OES |
| | 200 | 966 | | STEL (15 min) | OES |
| Butan-1-ol | | | | | |
| 71-36-3 | - | - | | TWA (8 h) | OES |
| | 50 | 154 | | STEL (15 min) | OES |
| Propan-2-ol | | | | | |
| 67-63-0 | 400 | 999 | | TWA (8 h) | OES |
| | 500 | 1250 | | STEL (15 min) | OES |
| 4-Hydroxy-4-methyl-pentan-2-one | | | | | |
| 123-42-2 | 50 | 241 | | TWA (8 h) | OES |
| | 75 | 362 | | STEL (15 min) | OES |
| n-Propyl acetate | | | | | |
| 109-60-4 | 200 | 849 | | TWA (8 h) | OES |
| | 250 | 1060 | | STEL (15 min) | OES |

### 8.2 Exposure controls

**Occupational exposure controls**
Ensure adequate ventilation, especially in confined areas.

**Protective and hygiene measures**
Wash hands before breaks and immediately after handling the product.
When using, do not eat, drink or smoke.
Take off immediately all contaminated clothing.
Avoid contact with skin, eyes and clothing.
Do not inhale vapours.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

**Hand protection**
Splash protection:
Protective gloves resistant to chemicals made off butyl, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) > 60 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

**Eye protection**
Tightly fitting goggles
Eye wash bottle with pure water

**Body protection**
Chemical resistant apron
Long sleeved clothing.

## 9. Physical and chemical properties

### 9.1 Appearance

Form: liquid Colour: red Odour: sweetish

### 9.2 Important health, safety and environmental information

| | | | Test method |
|---|---|---|---|
| **Changes in the physical state** | | | |
| Boiling point: | 76 - 125 | °C | |
| Flash point: | 11 | °C | |
| Ignition temperature: | n.d. | °C | |
| Lower Explosion limit: | 1,4 | vol. % | |
| Upper Explosion limit: | 19,0 | vol. % | |
| Vapour pressure: (at 20 °C) | n.d. | hPa | |
| Density: (at 20 °C) | 0,85 | g/ml | |
| Water solubility: (at 20 °C) | partially miscible | g/l | |

Vapour density: > 1

**Solvent content**
< 95 %

**Further information**

## 10. Stability and reactivity

**Conditions to avoid**
Vapours may form explosive mixture with air.

**Materials to avoid**
strong oxidizing agents

**Hazardous decomposition products**
Carbon monoxide and carbon dioxide

**Additional information**
No decomposition if stored and applied as directed.

## 11. Toxicological information

**Empirical data on effects on humans**
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**Additional information**
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Effects of breathing high concentrations of vapour may include
headache, dizziness, weakness, unconsciousness
Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

## 12. Ecological information

**Additional information**
Do not flush into surface water or sanitary sewer system.
Slightly water hazardous.

## 13. Advice on disposal

**Dispose**
Where possible recycling is preferred to disposal.
Can be incinerated, when in compliance with local regulations.

**Waste disposal number of Waste from residues / unused product : 080111**
WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances
Classified as hazardous waste.

**Contaminated packaging**
Empty containers should be taken for local recycling, recovery or waste disposal.
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

## 14. Transport information

### 14.1 Land transport (ADR/RID)

| | |
|---|---|
| ADR/RID: | 3 |
| Hazard-no.: | 33 |
| UN number: | 1263 |
| Hazard label: | 3 |
| ADR packaging group: | II |

**Description of the goods:**
PAINT

**Remarks**
"LQ 4: combination packaging: 3 l / 12 l; trays: 1 l / 12 l (20 kg total gross mass)"

### 14.2 Inland waterways transport

### 14.3 Marine transport

| | |
|---|---|
| IMDG-Code: | 3 |
| UN number: | 1263 |
| EMS: | F-E; S-E |
| Packaging group: | II |
| Marine pollutant: | No |

**Description of the goods**
PAINT

Hazard label: 3

**Remarks**
Limited quantities (chapter 3.4): combination packaging: 1 l / 30 kg (total gross mass); trays: 1 l / 20 kg (total gross mass)

### 14.4 Air transport

| | |
|---|---|
| ICAO/IATA-DGR: | 3 |
| UN/ID number: | 1263 |
| Hazard label: | 3 |

| | |
|---|---|
| IATA-packing instructions - passenger: | 305 |
| IATA-max. quantity - passenger: | 5 L |
| IATA-packing instructions - Cargo: | 307 |
| IATA-max. quantity - Cargo: | 60 L |

ICAO-packaging group: II

**Description of the goods**
PAINT

### 14.5 Further Information

## 15. Regulatory information

### 15.1 Labelling

**Indication of danger**
F - Highly flammable; Xi - Irritant

**Labelling according to EC-guidelines**
According to EC-regulations the product is to be labelled as follows:

**R phrases**
11-36-66-67
Highly flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

**S phrases**
09-16-23-26-35
Keep container in a well-ventilated place.
Keep away from sources of ignition - No smoking.
Do not breathe vapour .
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
This material and its container must be disposed of in a safe way.

### 15.2 National regulations

| | |
|---|---|
| Water contaminating class: | 1 - slightly water contaminating |
| 1999/13/EC (VOC): | < 95 % |

## 16. Other information

**List of relevant R phrases**

| | |
|---|---|
| 10 | Flammable. |
| 11 | Highly flammable. |
| 22 | Harmful if swallowed. |
| 36 | Irritating to eyes. |
| 41 | Risk of serious damage to eyes. |
| 66 | Repeated exposure may cause skin dryness or cracking. |
| 67 | Vapours may cause drowsiness and dizziness. |
| 37/38 | Irritating to respiratory system and skin. |

**Other data**
Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
"(n.a. = not applicable; n.d. = not determined)"

GARDENA, CA
NEW BRUNSWICK, NJ

# Material Safety Data Sheet

| NFPA | HMIS | Personal Protective Equipment |
|---|---|---|
|  | Health Hazard 2<br>Fire Hazard 3<br>Reactivity 0 |  <br>See Section 15. |

## Section 1. Chemical Product and Company Identification



| | |
|---|---|
| **Common Name/ Trade Name** | **Styrene (monomer)** |
| **Manufacturer** | SPECTRUM CHEMICAL MFG. CORP.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 |
| **Commercial Name(s)** | Not available. |
| **Synonym** | Vinylbenzene |
| **Chemical Name** | |
| **Chemical Family** | Not available. |
| **Chemical Formula** | C8H8 |
| **Supplier** | SPECTRUM CHEMICAL MFG. CORP.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 |

| | |
|---|---|
| **Catalog Number(s).** | S1683 |
| **CAS#** | 100-42-5 |
| **RTECS** | WL3675000 |
| **TSCA** | TSCA 8(b) inventory: Styrene (monomer) |
| **CI#** | Not available. |

**IN CASE OF EMERGENCY**
**CHEMTREC (24hr) 800-424-9300**

CALL (310) 516-8000

## Section 2.Composition and Information on Ingredients

| | | Exposure Limits | | | |
|---|---|---|---|---|---|
| **Name** | **CAS #** | **TWA (mg/m³)** | **STEL (mg/m³)** | **CEIL (mg/m³)** | **% by Weight** |
| 1) Styrene (monomer) | 100-42-5 | 213 | 426 | | 100 |

**Toxicological Data on Ingredients**

**Styrene (monomer)**:
ORAL (LD50): Acute: 2650 mg/kg [Rat]. 316 mg/kg [Mouse].
VAPOR (LC50): Acute: 12000 ppm 4 hour(s) [Rat]. 9500 ppm 4 hour(s) [Mouse].

## Section 3. Hazards Identification

**Potential Acute Health Effects**

Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. Inflammation of the eye is characterized by redness, watering, and itching.

**Potential Chronic Health Effects**

**CARCINOGENIC EFFECTS**: Classified + (PROVEN) by OSHA. Classified 2B (Possible for human.) by IARC. A4 (Not classifiable for human or animal.) by ACGIH.
**MUTAGENIC EFFECTS**: Not available.
**TERATOGENIC EFFECTS**: Not available.
**DEVELOPMENTAL TOXICITY**: Not available.
The substance is toxic to the nervous system, upper respiratory tract.
Repeated or prolonged exposure to the substance can produce target organs damage.

*Continued on Next Page*

## Section 4. First Aid Measures

| | |
|---|---|
| **Eye Contact** | Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention. |
| **Skin Contact** | After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. |
| **Serious Skin Contact** | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention. |
| **Inhalation** | Allow the victim to rest in a well ventilated area. Seek immediate medical attention. |
| **Serious Inhalation** | Not available. |
| **Ingestion** | Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention. |
| **Serious Ingestion** | Not available. |

## Section 5. Fire and Explosion Data

| | |
|---|---|
| **Flammability of the Product** | Flammable. |
| **Auto-Ignition Temperature** | 490°C (914°F) |
| **Flash Points** | CLOSED CUP: 31.1°C (88°F). (Cleveland) OPEN CUP: 36.7°C (98.1°F) (TAG). |
| **Flammable Limits** | LOWER: 1.1% UPPER: 6.1% |
| **Products of Combustion** | These products are carbon oxides (CO, CO2). |
| **Fire Hazards in Presence of Various Substances** | Flammable in presence of open flames and sparks.<br>Slightly flammable to flammable in presence of heat. |
| **Explosion Hazards in Presence of Various Substances** | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available. |
| **Fire Fighting Media and Instructions** | Flammable liquid, soluble or dispersed in water.<br>SMALL FIRE: Use DRY chemical powder.<br>LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. |
| **Special Remarks on Fire Hazards** | Not available. |
| **Special Remarks on Explosion Hazards** | Not available. |

## Section 6. Accidental Release Measures

| | |
|---|---|
| **Small Spill** | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |
| **Large Spill** | Flammable liquid.<br>Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |

*Continued on Next Page*

## Section 7. Handling and Storage

| | |
|---|---|
| **Precautions** | Keep locked up Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes |
| **Storage** | Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F). |

## Section 8. Exposure Controls/Personal Protection

| | |
|---|---|
| **Engineering Controls** | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location. |
| **Personal Protection** | Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. |
| **Personal Protection in Case of a Large Spill** | Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| **Exposure Limits** | TWA: 50 STEL: 100 (ppm)<br>TWA: 213 STEL: 426 ($mg/m^3$)<br><br>Consult local authorities for acceptable exposure limits. |

## Section 9. Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Physical state and appearance** | Liquid. (Clear viscous liquid.) | **Odor** | Sweetish. Aromatic. |
| **Molecular Weight** | 104.14 g/mole | **Taste** | Not available. |
| **pH (1% soln/water)** | Not available. | **Color** | Colorless. |
| **Boiling Point** | 145.2°C (293.4°F) | | |
| **Melting Point** | -30.6°C (-23.1°F) | | |
| **Critical Temperature** | Not available. | | |
| **Specific Gravity** | 0.906 (Water = 1) | | |
| **Vapor Pressure** | 4.5 mm of Hg (@ 20°C) | | |
| **Vapor Density** | 3.59 (Air = 1) | | |
| **Volatility** | Not available. | | |
| **Odor Threshold** | 0.1 ppm | | |
| **Water/Oil Dist. Coeff.** | The product is equally soluble in oil and water; log(oil/water) = 0 | | |
| **Ionicity (in Water)** | Not available. | | |
| **Dispersion Properties** | Not available. | | |
| **Solubility** | Very slightly soluble in cold water. | | |

*Continued on Next Page*

## Section 10. Stability and Reactivity Data

| | |
|---|---|
| **Stability** | The product is stable. |
| **Instability Temperature** | Not available. |
| **Conditions of Instability** | Not available. |
| **Incompatibility with various substances** | Not available. |
| **Corrosivity** | Non-corrosive in presence of glass. |
| **Special Remarks on Reactivity** | Not available. |
| **Special Remarks on Corrosivity** | Not available. |
| **Polymerization** | No. |

## Section 11. Toxicological Information

| | |
|---|---|
| **Routes of Entry** | Dermal contact. Eye contact. Inhalation. Ingestion. |
| **Toxicity to Animals** | **WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.**<br>Acute oral toxicity (LD50): 316 mg/kg [Mouse].<br>Acute toxicity of the vapor (LC50): 9500 ppm 4 hour(s) [Mouse]. |
| **Chronic Effects on Humans** | **CARCINOGENIC EFFECTS**: Classified + (PROVEN) by OSHA. Classified 2B (Possible for human.) by IARC. A4 (Not classifiable for human or animal.) by ACGIH.<br>The substance is toxic to the nervous system, upper respiratory tract. |
| **Other Toxic Effects on Humans** | Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. |
| **Special Remarks on Toxicity to Animals** | Not available. |
| **Special Remarks on Chronic Effects on Humans** | Animal embryotoxic. Postnatal development injury in animal. Menstrual disorders in human. Human: passes the placental barrier, detected in maternal milk. |
| **Special Remarks on other Toxic Effects on Humans** | Not available. |

## Section 12. Ecological Information

| | |
|---|---|
| **Ecotoxicity** | Not available. |
| **BOD5 and COD** | Not available. |
| **Products of Biodegradation** | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| **Toxicity of the Products of Biodegradation** | The products of degradation are more toxic. |
| **Special Remarks on the Products of Biodegradation** | Not available. |

*Continued on Next Page*

## Section 13. Disposal Considerations

**Waste Disposal**

## Section 14. Transport Information

| | |
|---|---|
| **DOT Classification** | Class 3: Flammable liquid. |
| **Identification** | : Styrene monomer, inhibited : UN2055 PG: III |
| **Special Provisions for Transport** | Marine Pollutant |
| **DOT (Pictograms)** |  |

## Section 15. Other Regulatory Information and Pictograms

**Federal and State Regulations**

Pennsylvania RTK: Styrene (monomer)
Florida: Styrene (monomer)
Minnesota: Styrene (monomer)
Massachusetts RTK: Styrene (monomer)
New Jersey: Styrene (monomer)
TSCA 8(b) inventory: Styrene (monomer)
SARA 313 toxic chemical notification and release reporting: Styrene (monomer)
CERCLA: Hazardous substances.: Styrene (monomer)

**California Proposition 65 Warnings**

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications**

**WHMIS (Canada)**

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC)**

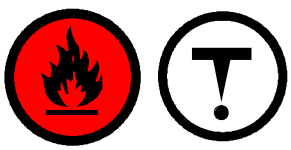
R10- Flammable.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.
R45- May cause cancer.

**HMIS (U.S.A.)**

| | |
|---|---|
| Health Hazard | 2 |
| Fire Hazard | 3 |
| Reactivity | 0 |
| Personal Protection | h |

**National Fire Protection Association (U.S.A.)**


**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**

*Continued on Next Page*

**TDG (Canada) (Pictograms)**

**ADR (Europe) (Pictograms)**

**Protective Equipment**

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

## *Section 16. Other Information*

| | |
|---|---|
| **MSDS Code** | **S5030** |
| **References** | Not available. |
| **Other Special Considerations** | Not available. |

**Validated by Sonia Owen on 8/11/2006.**

**Verified by Sonia Owen.**

**Printed 9/14/2006.**

**CALL (310) 516-8000**

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*

**Product Number 701**

# SAFETY DATA SHEET

**Issuing Date** No data available **Revision Date** 05/29/15 **Revision Number** 2



## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** **Sunnyside Paint Thinner**

**Other means of identification**

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Paint Thinner (*Note Future CARB requirements: 2013 - 3 wt%)

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier Name** Sunnyside Corporation
**Supplier Address** 225 Carpenter Avenue
Wheeling
IL
60090
US
**Supplier Phone Number** Phone:8003238611
Fax:8475419043

**Supplier Email** sscontact@sunnysidecorp.com
**Emergency telephone number** Chem Trec 8004249300

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Aspiration toxicity | Category 1 |
| Flammable liquids | Category 3 |

## GHS Label elements, including precautionary statements

**Emergency Overview**

**Signal word** **Warning**

**Hazard Statements**
May be fatal if swallowed and enters airways
Flammable liquid and vapor

**Appearance** Clear **Physical State** Liquid **Odor** Petroleum distillates

**Precautionary Statements - Prevention**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**
None

**Skin**
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

**Ingestion**
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

**Fire**
In case of fire: Use CO2, dry chemical, or foam for extinction

**Precautionary Statements - Storage**
Store locked up
Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

## Hazards not otherwise classified (HNOC)

Not applicable

## Unknown Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

No information available

**Interactions with Other Chemicals**
No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% | Trade Secret |
|---|---|---|---|
| Solvent naphtha (petroleum), medium aliphatic | 64742-88-7 | 60 - 100 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret

## 4. FIRST AID MEASURES

**First aid measures**

**General Advice** Show this safety data sheet to the doctor in attendance.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin Contact** Wash skin with soap and water. Get medical attention if irritation develops and persists. Take off contaminated clothing and wash before reuse.

**Inhalation** If symptoms persist, call a physician.

**Ingestion** Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Difficulty in breathing. Dizziness.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use:. Dry chemical, CO2, water spray or regular foam.

**Unsuitable Extinguishing Media**
CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**
Vapors can form explosive mixtures with air. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Vapors may travel to source of ignition and flash back.

| | |
|---|---|
| **Uniform Fire Code** | Combustible Liquid: II |

**Hazardous Combustion Products**
Carbon oxides.

**Explosion Data**

| | |
|---|---|
| **Sensitivity to Mechanical Impact** | No. |
| **Sensitivity to Static Discharge** | Yes. |

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal Precautions** | ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. |
| **Other Information** | Water spray may reduce vapor; but may not prevent ignition in closed spaces. |

**Environmental Precautions**

| | |
|---|---|
| **Environmental Precautions** | Prevent entry into waterways, sewers, basements or confined areas. |

**Methods and material for containment and cleaning up**

| | |
|---|---|
| **Methods for Containment** | A vapor suppressing foam may be used to reduce vapors. |
| **Methods for cleaning up** | Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Use clean non-sparking tools to collect absorbed material. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal. |

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

| | |
|---|---|
| **Handling** | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use according to package label instructions. Use personal protection equipment. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. |

**Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage** | Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. |
| **Incompatible Products** | Strong oxidizing agents. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

| | |
|---|---|
| **Exposure Guidelines** | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies |

**Appropriate engineering controls**

| | |
|---|---|
| **Engineering Measures** | Showers<br>Eyewash stations<br>Ventilation systems |

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/Face Protection** | Tight sealing safety goggles. |
| **Skin and Body Protection** | Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots. |
| **Respiratory Protection** | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| **Hygiene Measures** | Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Physical State** | Liquid | | |
| **Appearance** | Clear | **Odor** | Petroleum distillates |
| **Color** | No information available | **Odor Threshold** | No information available |

| **Property** | **Values** | **Remarks/ Method** |
|---|---|---|
| **pH** | UNKNOWN | None known |
| **Melting / freezing point** | No data available | None known |
| **Boiling point / boiling range** | 157 °C / 315 °F | None known |
| **Flash Point** | 42 C / 108 F | None known |
| **Evaporation Rate** | No data available | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | No data available | |
| **Lower flammability limit** | No data available | |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | No data available | None known |
| **Specific Gravity** | No data available | None known |
| **Water Solubility** | Insoluble in water | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient: n-octanol/water** | No data available | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Explosive properties** | No data available | |
| **Oxidizing Properties** | No data available | |

## Other Information

| | |
|---|---|
| **Softening Point** | No data available |
| **VOC Content (%)** | No data available |
| **Particle Size** | No data available |
| **Particle Size Distribution** | |

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Hazardous Polymerization**
Hazardous polymerization does not occur.

**Conditions to avoid**
Heat, flames and sparks.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous Decomposition Products**
Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information.
.

**Inhalation** Specific test data for the substance or mixture is not available. May cause drowsiness and dizziness.

**Eye Contact** Specific test data for the substance or mixture is not available.

**Skin Contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May be fatal if swallowed and enters airways.

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Solvent naphtha (petroleum), medium aliphatic 64742-88-7 | > 5000 mg/kg ( Rat ) | = 3000 mg/kg ( Rabbit ) | > 5.28 mg/L ( Rat ) 4 h |

**Information on toxicological effects**

**Symptoms** Difficulty in breathing. Vapors may cause drowsiness and dizziness.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** Respiratory system.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (dermal)**
3,000.00 mg/kg (ATE)

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
The environmental impact of this product has not been fully investigated.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|---|---|---|---|
| Solvent naphtha (petroleum), medium aliphatic 64742-88-7 | 96h EC50: = 450 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: = 800 mg/L (Pimephales promelas) | | 48h EC50: > 100 mg/L |

**Persistence and Degradability**
No information available.

**Bioaccumulation**
No information available

**Other adverse effects**
No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Disposal methods** | This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). |
| **Contaminated Packaging** | Dispose of contents/containers in accordance with local regulations. |
| **US EPA Waste Number** | D001 |
| **California Hazardous Waste Codes** | 213 |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | NOT REGULATED (If shipped in NON BULK packaging by ground transport) |
| **Proper Shipping Name** | NON-REGULATED |
| **Hazard Class** | N/A |
| **Emergency Response Guide Number** | 128 |

**TDG**

| | |
|---|---|
| **UN-No.** | UN1268 |
| **Proper Shipping Name** | PETROLEUM DISTILLATES, N.O.S. |
| **Hazard Class** | 3 |
| **Packing Group** | III |

**MEX**

| | |
|---|---|
| **UN-No.** | UN1268 |
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Description** | UN1268 Petroleum distillates, n.o.s.,3,III |

**ICAO**

| | |
|---|---|
| **UN-No.** | UN1268 |
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Description** | 1268,Petroleum distillates, n.o.s.,3,PG III |

**IATA**

| | |
|---|---|
| **UN-No.** | 1268 |
| **Proper Shipping Name** | PETROLEUM DISTILLATES, N.O.S. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Description** | UN1268,Petroleum distillates, n.o.s.,3,PG III |

**IMDG/IMO**

| | |
|---|---|
| **UN-No.** | 1268 |

| | |
|---|---|
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **EmS No.** | F-E, S-E |
| **Description** | 1268, Petroleum distillates, n.o.s.,3,PG III, FP 42C |

**RID**

| | |
|---|---|
| **UN-No.** | 1268 |
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Classification code** | F1 |
| **Description** | 1268 Petroleum distillates, n.o.s.,3,III |

**ADR**

| | |
|---|---|
| **UN-No.** | UN1268 |
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Classification code** | F1 |
| **Description** | UN1268 Petroleum distillates, n.o.s.,3,III |

**ADN**

| | |
|---|---|
| **UN-No.** | UN1268 |
| **Proper Shipping Name** | Petroleum distillates, n.o.s. |
| **Hazard Class** | 3 |
| **Packing Group** | III |
| **Classification code** | F1 |
| **Description** | UN1268 Petroleum distillates, n.o.s.,3,III |
| **Hazard Labels** | 3 |
| **Limited Quantity** | LQ7 |
| **Ventilation** | VE01 |

## 15. REGULATORY INFORMATION

### International Inventories

| | |
|---|---|
| TSCA | Complies |
| DSL | All components are listed either on the DSL or NDSL. |

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | Yes |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

## US State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

.

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|---|---|---|---|---|---|
| Solvent naphtha (petroleum), medium aliphatic 64742-88-7 | X | | | | |

## International Regulations

**Canada**
**WHMIS Hazard Class**
B3 - Combustible liquid

## 16. OTHER INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health Hazards** | 1 | **Flammability** | 2 | **Instability** 0 | **Physical and Chemical Hazards** | - |
| **HMIS** | **Health Hazards** | 1 | **Flammability** | 2 | **Physical Hazard** 0 | **Personal Protection** | X |

**Prepared By**
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

**Revision Date** 08-Nov-2013
**Revision Note** No information available

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**

**Manufacturer's Name:**
**Sunrise Environmental Scientific**
**Address: P.O. Box 10207**
**City: Reno, Nevada 89510**

SUNRISE
ENVIRONMENTAL SCIENTIFIC
Blending the Demands of Industry and Environment

**Information: 775-359-8494**
**For chemical emergency,**
**Chemtrec: 800-424-9300**
**Fax: 775-359-6751**

# MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET

## PRODUCT NAME: STINGER

Date Prepared: 8/16/06 Product Number: 2103 UN-Number: 1897

## SECTION II - HAZARDOUS INGREDIENTS

| Ingredients: | CAS#: | PEL: | TLV: | IDLH: | STEL: |
|---|---|---|---|---|---|
| *1,1,2,2 Tetrachloroethylene (Stabilized) | 127-18-4 | Air: TWA 25ppm | Air: 25ppm | 150 | 100ppm |

Comments: * Chemicals subject to SARA Title III, Section 313 reporting. This notification must not be detached from this MSDS, and any copies of this MSDS must include this notification. This notification applies only to material while it is within the boundaries of the United States of America or its territories.
All chemicals contained in this product are listed on the Toxic Substance Control Act (TSCA) Inventory. 1,1,2,2 Tetrachloroethylene, <100%

## SECTION III - PHYSICAL DATA

Boiling Point: 250° F. Vapor Press: 14mm Hg@20°C Vapor Density: 5.83 Solubility In Water: Negligible. Specific Gravity: 1.6311 @ 15° C.
Appearance And Odor: Clear, Colorless liquid with a chloroform-like odor. Melting Point: N/A Evaporation Rate: N/A %VOC: 0

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Does not flash. LEL: N/A Flammable Limits: N/A UEL: N/A
Extinguishing Media: Foam, carbon dioxide, and dry chemicals. A water spray or fog should be used to cool containers only.
Fire Fighting Procedures: Wear full protective equipment, including self-contained breathing apparatus.
Explosion Hazard: None.

## SECTION V - REACTIVITY DATA

Stability: Stable. Condition To Avoid: Hot storage.
Incompatibility: Strong oxidizers, nitrogen tetraoxide, barium, beryllium. lithium, and caustics (i.e., sodium hydroxide, potassium hydroxide, etc.).
Hazardous By Products: When heated to decomposition, it emits highly toxic chloride fumes and phosgene, plus toxic oxides of carbon.
Hazardous Polymerization: Will not occur.

## SECTION VI - HEALTH HAZARD DATA

Route Of Entry: Eye: Irritant. Skin: Irritant. Inhalation: Harmful if inhaled. Ingestion: Harmful if swallowed.
Acute Health Hazards: Causes eye and skin irritation. Inhalation may be irritating to respiratory tract. A CNS depressant which could cause unconsciousness or death in high concentrations. Aspiration hazard.
Chronic Health Hazards: Repeated exposure can cause dermatitis with possible CNS, liver, and kidney effects, plus and increased risk of cancer.
Carcinogenicity: Animal carcinogen, IARC, NCI, NTP, and OSHA.
NTP: Yes IARC Monographs: Yes. Group 2B OSHA Regulated: Yes.
Signs Of Exposure: Irritated, red eyes. Irritated, red skin. Dizziness, nausea, shortness of breath.
Medical Condition Aggravated By Exposure: Exposure to Perchloroethylene may aggravate existing respiratory, heart, skin, or eye disorders. NOTE TO PHYSICIAN: Never administer adrenaline following exposure to Perchloroethylene, as that exposure can cause increased sensitivity of the heart to adrenaline.
First Aid For Exposure: Eyes: Immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Call a physician immediately.
External: In case of contact, immediately flush skin with plenty clean running water for at least 15 minutes, while removing contaminated clothing and shoes. Then wash with soap and water. If irritation occurs, get medical attention.
Internal: If swallowed, DO NOT induce vomiting. Aspiration hazard. Call a physician. Inhalation: If inhaled, immediately move to fresh air. If not breathing give artificial respiration, using Holger Nielsen method. Do not use mouth to mouth method. If breathing is difficult, give oxygen. Call a physician.

## SECTION VII - PRECAUTION FOR SAFE HANDLING AND USE

Spill Cleanup Procedure: Contain spilled liquid. (For small spills, add dry material to contain.) Wearing recommended protective equipment remove bulk of liquid. Add dry material to absorb remaining liquid; pick up and containerize for recovery or disposal.
In the United States of America, the EPA reportable Quantity (RQ) for Perchloroethylene is 100lb. (approx. 7.5 gal.). A spill with the release of an RQ amount to the environment requires immediate notification to the National Response Center (1-800-424-8802), the State Emergency Response Commission (SERC), and local emergency response agencies (fire and/or police departments).
Waste Disposal Method: This product, if disposed as shipped, is a hazardous waste due to toxicity as specified in 40 CFR 261. Consult state or local officials for proper disposal method.
NOTE: Halogenated hydrocarbons are now prohibited by EPA regulations from land disposal. Check all federal, state and local regulations for recycling and disposal by incineration.
When empty, thoroughly rinse container with water before disposal, return to manufacturer, or any other industrial use.
Precaution In Storage: Store in a cool, dry, sell-ventilated area.
Other Precautions: **Keep away from food.**

## SECTION VIII - CONTROL MEASURES

Respiratory Protection: If OSHA PEL is exceeded, a NIOSH-approved respirator with an organic vapor cartridge, supplied air, or an S.C.B.A. is required.
Local Exhaust Ventilation: Required.
Special Exhaust: None.
Mechanical Exhaust: As a supplement to the local exhaust system.
Other Exhaust: N/A
Protective Gloves: Vitron, silver shield.
Eye Protection: Chemical goggles (recommended by ANSI Z87.1-1979)
Protective Clothing Or Equipment: Rubber apron, rubber boots, eyewash, safety shower.
Hygienic Work Practices: N/A

| HMIS RATING or NFPA 704 HAZARD RATING<br>Extreme - 4 • High - 3 • Moderate - 2<br>Slight - 1 • Insignificant - 0 | | |
|---|---|---|
| | HEALTH | 2 |
| | FLAMMABILITY | 0 |
| | REACTIVITY | 0 |

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 16-3472-4 | **Version Number:** | 38.00 |
| **Issue Date:** | 04/07/16 | **Supercedes Date:** | 02/16/16 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

**Product Identification Numbers**
62-4977-2924-4, 62-4977-2928-5, 62-4977-4730-3, 62-4977-4922-6, 62-4977-4925-9, 62-4977-4929-1, 62-4977-4930-9, 62-4977-4935-8

**1.2. Recommended use and restrictions on use**

**Recommended use**
Adhesive aerosol, General Purpose Aerosol adhesive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Industrial Adhesives and Tapes Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

**2.1. Hazard classification**
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**

Flame | Gas cylinder | Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

**Precautionary Statements**
**General:**
Keep out of reach of children.

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

**Storage:**
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Acetone | 67-64-1 | 20 - 30 Trade Secret * |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Trade Secret* | 20 - 30 Trade Secret * |
| Propane | 74-98-6 | 15 - 25 Trade Secret * |
| Cyclohexane | 110-82-7 | 10 - 20 Trade Secret * |
| Petroleum distillates | 64742-49-0 | 10 - 20 Trade Secret * |
| Hexane | 110-54-3 | < 0.5 |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. Get medical attention.

**Skin Contact:**
Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Aldehydes | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Hexane | 110-54-3 | ACGIH | TWA:50 ppm | Skin Notation |
| Hexane | 110-54-3 | OSHA | TWA:1800 mg/m3(500 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |

| | | | | |
|---|---|---|---|---|
| Petroleum distillates | 64742-49-0 | CMRG | TWA:50 ppm | |
| Acetone | 67-64-1 | ACGIH | TWA:250 ppm;STEL:500 ppm | A4: Not class. as human carcin |
| Acetone | 67-64-1 | OSHA | TWA:2400 mg/m3(1000 ppm) | |
| Propane | 74-98-6 | ACGIH | Limit value not established: | |
| Propane | 74-98-6 | OSHA | TWA:1800 mg/m3(1000 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **General Physical Form:** | Liquid aerosol |
| **Specific Physical Form:** | Aerosol |
| **Odor, Color, Grade:** | Clear, sweet, fruity odor |
| **Odor threshold** | *No Data Available* |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *Not Applicable* |

| | |
|---|---|
| **Flash Point** | -42.00 ºF [*Test Method:* Tagliabue Closed Cup] |
| **Evaporation rate** | 1.9 [*Ref Std:* ETHER=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Density** | 2.97 [*Ref Std:* AIR=1] |
| **Density** | 0.726 g/ml |
| **Specific Gravity** | 0.726 [*Ref Std:* WATER=1] |
| **Solubility in Water** | Nil |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *Not Applicable* |
| **Viscosity** | *Not Applicable* |
| **Hazardous Air Pollutants** | <=0.4 % weight [*Test Method:* Calculated] |
| **VOC Less H2O & Exempt Solvents** | <=51 % [*Test Method:* calculated SCAQMD rule 443.1] |
| **Solids Content** | >=22.4 % |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE > 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Propane | Inhalation-Gas (4 hours) | Rat | LC50 > 200,000 ppm |
| Acetone | Dermal | Rabbit | LD50 > 15,688 mg/kg |
| Acetone | Inhalation-Vapor (4 hours) | Rat | LC50 76 mg/l |
| Acetone | Ingestion | Rat | LD50 5,800 mg/kg |
| Cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Cyclohexane | Inhalation-Vapor (4 | Rat | LC50 > 32.9 mg/l |

| | | | |
|---|---|---|---|
| | hours) | | |
| Cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| Petroleum distillates | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| Petroleum distillates | Inhalation-Vapor (4 hours) | Rat | LC50 > 14.7 mg/l |
| Petroleum distillates | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Hexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Hexane | Inhalation-Vapor (4 hours) | Rat | LC50 170 mg/l |
| Hexane | Ingestion | Rat | LD50 > 28,700 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane | Rabbit | Minimal irritation |
| Acetone | Mouse | Minimal irritation |
| Cyclohexane | Rabbit | Mild irritant |
| Petroleum distillates | Rabbit | Irritant |
| Non-volatile components (N.J.T.S. Registry No. 04499600-6433P) | Professional judgement | Minimal irritation |
| Hexane | Human and animal | Mild irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane | Rabbit | Mild irritant |
| Acetone | Rabbit | Severe irritant |
| Cyclohexane | Rabbit | Mild irritant |
| Petroleum distillates | Rabbit | Mild irritant |
| Hexane | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Petroleum distillates | Guinea pig | Not sensitizing |
| Hexane | Human | Not sensitizing |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Propane | In Vitro | Not mutagenic |
| Acetone | In vivo | Not mutagenic |
| Acetone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Petroleum distillates | In Vitro | Not mutagenic |
| Hexane | In Vitro | Not mutagenic |

| | | |
|---|---|---|
| Hexane | In vivo | Not mutagenic |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Acetone | Not Specified | Multiple animal species | Not carcinogenic |
| Petroleum distillates | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Hexane | Dermal | Mouse | Not carcinogenic |
| Hexane | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| Acetone | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 5.2 mg/l | during organogenesis |
| Cyclohexane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |
| Hexane | Ingestion | Not toxic to development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesis |
| Hexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.7 mg/l | during gestation |
| Hexane | Ingestion | Toxic to male reproduction | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| Hexane | Inhalation | Toxic to male reproduction | Rat | LOAEL 3.52 mg/l | 28 days |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Propane | Inhalation | cardiac sensitization | Causes damage to organs | Human | NOAEL Not available | |
| Propane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Propane | Inhalation | respiratory irritation | All data are negative | Human | NOAEL Not available | |
| Acetone | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Acetone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous | May cause drowsiness or | Human | NOAEL Not | poisoning |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | system depression | dizziness | | available | and/or abuse |
| Cyclohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| Cyclohexane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Petroleum distillates | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Petroleum distillates | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Petroleum distillates | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Hexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| Hexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL Not available | 8 hours |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24.6 mg/l | 8 hours |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Acetone | Dermal | eyes | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 3 mg/l | 6 weeks |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart \| liver | All data are negative | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 3,896 mg/kg/day | 14 days |
| Acetone | Ingestion | eyes | All data are negative | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | All data are negative | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | All data are negative | Rat | NOAEL 2,500 mg/kg | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| Acetone | Ingestion | skin \| bone, teeth, nails, and/or hair | All data are negative | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| Cyclohexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |
| Cyclohexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| Cyclohexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |
| Hexane | Inhalation | peripheral nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 1.76 mg/l | 13 weeks |
| Hexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 months |
| Hexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.76 mg/l | 6 months |
| Hexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 35.2 mg/l | 13 weeks |
| Hexane | Inhalation | auditory system \| immune system \| eyes | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | heart \| skin \| endocrine system | All data are negative | Rat | NOAEL 1.76 mg/l | 6 months |
| Hexane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| Hexane | Ingestion | endocrine system \| hematopoietic system \| liver \| immune system \| kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 13 weeks |

**Aspiration Hazard**

| Name | Value |
|---|---|
| Cyclohexane | Aspiration hazard |
| Petroleum distillates | Aspiration hazard |
| Hexane | Aspiration hazard |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material

and/or its components.

## SECTION 13: Disposal considerations

**13.1. Disposal methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| Cyclohexane | 110-82-7 | Trade Secret 10 - 20 |

### 15.2. State Regulations
Contact 3M for more information.

### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations
Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

**NFPA Hazard Classification**
**Health:** 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
**Aerosol Storage Code:** 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include

the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**
**Health:** *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|---|---|---|---|
| **Document Group:** | 16-3472-4 | **Version Number:** | 38.00 |
| **Issue Date:** | 04/07/16 | **Supercedes Date:** | 02/16/16 |

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**3M USA SDSs are available at www.3M.com**

adverstisements

KELLY-MOORE PAINT CO INC -- SUPER LATEX FLAT WALL PAINT, 550 SERIES ALL COLORS -- 8010-00N036377

========== Product Identification ==========

Product ID:SUPER LATEX FLAT WALL PAINT, 550 SERIES ALL COLORS
MSDS Date:08/31/1994
FSC:8010
NIIN:00N036377
MSDS Number: CFNVC
=== Responsible Party ===
Company Name:KELLY-MOORE PAINT CO INC
Address:1015 COMMERCIAL ST
City:SAN CARLOS
State:CA
ZIP:94070
Country:US
Info Phone Num:415-592-8337
Emergency Phone Num:800-424-9300(CHEMTREC)
CAGE:0Y837
=== Contractor Identification ===
Company Name:KELLY-MOORE PAINT CO INC
Address:987 COMMERCIAL ST
Box:City:SAN CARLOS
State:CA
ZIP:94070
Country:US
Phone:650-592-8337
CAGE:0Y837

========== Composition/Information on Ingredients ==========

Ingred Name:ETHYLENE GLYCOL (SARA 313) (CERCLA). VP:0.1 @ 68F.
CAS:107-21-1
RTECS #:KW2975000
Fraction by Wt: 2-3%
OSHA PEL:50 PPM (MFR)
ACGIH TLV:50 PPM, VAPOR, C
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:PROPIONIC ACID, 2-METHYL-, MONOESTER
W/2,2,4-TRIMETHYL-1,3-PENTANEDIOL; (TEXANOL). VP:0.04 @ 68F.
CAS:25265-77-4
RTECS #:UF6000000
Fraction by Wt: <2%
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:PIGMENTS; (CONTAINS PIGMENTS SUCH AS INGS 4 - 6 AND MAY
CONTAIN ING 7)
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:MINERAL SILICATES
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:CALCIUM CARBONATE
CAS:1317-65-3
RTECS #:EV9580000
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:TITANIUM OXIDE; (TITANIUM DIOXIDE)
CAS:13463-67-7
RTECS #:XR2275000
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:SILICA, CRYSTALLINE - QUARTZ; (CRYSTALLINE SILICA)
CAS:14808-60-7
RTECS #:VV7330000
Fraction by Wt: <0.1%
OSHA PEL:N/K
ACGIH TLV:0.1 MG/M3 RDUST

Ingred Name:4-ISOTHIAZOLIN-3-ONE, 5-CHLORO-2-METHYL-; (PAINT
PRESERVATIVE)
CAS:26172-55-4
RTECS #:NX8156850
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE:DIZZINESS, HEADACHE, NAUSEA, CONFUSION, IRRITATION TO UPPER RESPIRATORY TRACT SKIN AND EYE IRRITATION. CHRONIC:PROLONGED AND/OR REPEATED OVEREXPOSURE TO HIGH CONCENTRATIONS OF RESPIRABLE (AIRBOR NE) CRYSTALLINE SILICA DUSTS AS MAY BE GENERATED BY SANDING OR GRINDING OF DRIED PAINTS AND OTHER (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:HLTH HAZ:BLDG MATLS W/OUT WEARING PROPER NIOSH APPRVD RESP PROT CAN CAUSE SILICOSIS, A NON-CANCEROUS LUNG DISEASE THAT CAN RSLT IN SUBSTANTIAL IMPAIRMENT OF BRTHG FUNCTION. IARC HAS DETERMINED THAT TH ERE IS LTD EVID FOR CARCIN OF CRYSTALLINE SILICA TO HUMANS, W/RISK DEPENDING ON DURATION & LEVEL OF EXPOSURE.
Medical Cond Aggravated by Exposure:NONE KNOWN. SEE YOUR PHYSICIAN FOR SPECIFIC MEDICAL OPINION REGARDING YOUR CONDITION.

========== First Aid Measures ==========

First Aid:INHAL:REMOVE TO FRESH AIR. RESTORE BREATHING. CONSULT MD. EYES:FLUSH W/LARGE VOLUMES OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. SKIN:WIPE OFF W/RAG. WASH THOROUGHLY W/SOAP & WATER. INGES T:CONSULT HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER IMMEDIATELY.

========== Fire Fighting Measures ==========

Flash Point:NONE
Extinguishing Media:MEDIA SUITABLE FOR SURROUNDING FIRE .
Fire Fighting Procedures:USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT .
Unusual Fire/Explosion Hazard:CLOSED CONTAINERS MAY EXPLODE (DUE TO BUILD-UP OF STEAM PRESSURE; WHEN EXPOSED TO EXTREME HEAT.

========== Accidental Release Measures ==========

Spill Release Procedures:VENTILATE AREA TO PREVENT BUILD-UP OF VAPORS. FOR SMALL SPILLS, SOAK UP W/ABSORBENT. FOR LARGER SPILLS, DIKE AREA W/ABSORBENT MATERIAL & SCOOP UP LIQUIDS.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:STORE UPRIGHT IN SEALED CONTAINERS
AWAY FROM HEAT & FLAME.
Other Precautions:PROD CONTAINS PIGMENTS WHICH ARE NOT HAZ IN WET PAINT
BUT MAY REACH HAZ LEVELS IN DUSTS GENERATED FROM SANDING/GRINDING
OF DRIED PAINT. A PAINT PRESERVATIVE HAS BEEN ADDED TO CONTROL
MICROORGANISMS AT A LEVEL THAT IS NOT CONSIDERED HAZ.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:USE A NIOSH APPROVED PARTICLE MASK (TC-21C) TO
AVOID BRTHG SPRAY MIST/SANDING DUST IF LOC VENT IS ADEQ TO KEEP VAP
CONCS W/IN ACCEPT (TLV) LIMS. IF LOC VENT IS NOT SUFFICIENT/WHERE
EXPOS LIMS ARE EXCE EDED, WEAR A SUITABLE, PROPERLY (SUPDAT)
Ventilation:LOCAL CROSS-VENTILATION OR MECHANICAL EXHAUST SUFFICIENT TO
KEEP ALL HAZ VAPOR CONCENTRATIONS BELOW PRESCRIBED LIMITS.
Protective Gloves:IMPERVIOUS GLOVES .
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
Other Protective Equipment:EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET
ANSI DESIGN CRITERIA .
Work Hygienic Practices:REMOVE & WASH CONTAMINATED CLOTHING BEFORE
REUSE.
Supplemental Safety and Health
RESP PROT:FITTED NIOSH APPROVED RESPIRATOR (TC-23C OR BETTER) FOR
ORGANIC VAPORS W/DUST FILTER AS NEEDED.

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:212F,100C
Vapor Pres:SEE INGS
Vapor Density:LTR/AIR
Spec Gravity:1.44
Evaporation Rate & Reference:SLOWER THAN ETHER
Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.
Percent Volatiles by Volume:60-65

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS.
Hazardous Decomposition Products:MAY PRODUCE HAZARDOUS FUMES WHEN
HEATED TO DECOMPOSITION AS IN WELDING.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSAL MUST BE I/A/W FEDERAL, STATE & LOCAL
REGULATIONS . DISCARD IN LANDFILL IN SEALED METAL CONTAINERS AWAY
FROM HEAT & FLAME & I/A/W LOCAL REGULATIONS.

KELLY-MOORE PAINTS
The Painter's Paint Store

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **550 AcryPlex Latex Interior Flat Enamel 121, 222, 333, 555**

**Other means of identification** None.

**Recommended use** Architectural Coating

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name** Kelly-Moore Paint Co., Inc.
**Address** 987 Commercial St., San Carlos, CA 94070
**Telephone** 1-800-874-4436
**E-mail** TAlvarez@kellymoore.com
**Contact person** Tiffany Alvarez
**Emergency phone number** CHEMTREC: 1-800-424-9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**Hazard symbol** None.
**Signal word** None.
**Hazard statement** The mixture does not meet the criteria for classification.
**Precautionary statement**
**Prevention** Observe good industrial hygiene practices.
**Response** Wash hands after handling.
**Storage** Store away from incompatible materials.
**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| Titanium dioxide | 13463-67-7 | < 20 |

All concentrations are in percent by weight (kg) unless ingredient is a gas. Gas concentrations are in percent by volume (l). The balance is non-hazardous.

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

**Skin contact** Rinse skin with water/shower. Get medical attention if irritation develops and persists.

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

**Most important symptoms/effects, acute and delayed** Direct contact with eyes may cause temporary irritation.

| | |
|---|---|
| **Indication of immediate medical attention and special treatment needed** | Treat symptomatically. |
| **General information** | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Specific hazards arising from the chemical** | During fire, gases hazardous to health may be formed. |
| **Special protective equipment and precautions for firefighters** | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| **Fire fighting equipment/instructions** | Move containers from fire area if you can do so without risk. |
| **Specific methods** | Use standard firefighting procedures and consider the hazards of other involved materials. |
| **General fire hazards** | No unusual fire or explosion hazards noted. |

## 6. Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. |
| **Methods and materials for containment and cleaning up** | Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |

## 7. Handling and storage

| | |
|---|---|
| **Precautions for safe handling** | Avoid prolonged exposure. Use care in handling/storage. |
| **Conditions for safe storage, including any incompatibilities** | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

| | |
|---|---|
| **Occupational exposure limits** | No exposure limits noted for ingredient(s). |
| **Biological limit values** | No biological exposure limits noted for the ingredient(s). |
| **Appropriate engineering controls** | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | Use safety glasses, goggles, or face shield to protect eyes. |
| **Skin protection** | |
| **Hand protection** | Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. |
| **Other** | Wear suitable protective clothing. |
| **Respiratory protection** | In case of insufficient ventilation, wear suitable respiratory equipment. |
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **General hygiene considerations** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | Milky white to colored liquid. |

| | |
|---|---|
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Various. |
| **Odor** | Slightly ammoniacal. |
| **Odor threshold** | Not available. |
| **pH** | 7 - 10 |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | Not available. |
| **Flash point** | Not available. |
| **Evaporation rate** | < 1 (n-BuAc=1) |
| **Flammability (solid, gas)** | Not applicable. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | Not available. |
| **Flammability limit - upper (%)** | Not available. |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | Not available. |
| **Vapor density** | > 1 (Air=1) |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Moderately soluble |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Other information** | |
| **Explosive properties** | Not explosive. |
| **Oxidizing properties** | Not oxidizing. |
| **VOC (Weight %)** | 45.83 - 47.93 g/L |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Acids. Fluorine. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Skin contact** | No adverse effects due to skin contact are expected. |
| **Eye contact** | Direct contact with eyes may cause temporary irritation. |
| **Ingestion** | Expected to be a low ingestion hazard. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Direct contact with eyes may cause temporary irritation. |

**Information on toxicological effects**

| | |
|---|---|
| **Acute toxicity** | Not available. |
| **Skin corrosion/irritation** | Prolonged skin contact may cause temporary irritation. |
| **Serious eye damage/eye irritation** | Direct contact with eyes may cause temporary irritation. |
| **Respiratory or skin sensitization** | |
| **Respiratory sensitization** | Not a respiratory sensitizer. |
| **Skin sensitization** | This product is not expected to cause skin sensitization. |
| **Germ cell mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Carcinogenicity** | Inhalation of titanium dioxide dust may cause cancer, however due to the physical form of the product, inhalation of dust is not likely. |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2) | 3 Not classifiable as to carcinogenicity to humans. |
| Silicon dioxide, crystalline silica-free (CAS 7631-86-9) | 3 Not classifiable as to carcinogenicity to humans. |
| Titanium dioxide (CAS 13463-67-7) | 2B Possibly carcinogenic to humans. |

**NTP Report on Carcinogens**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

| | |
|---|---|
| **Reproductive toxicity** | This product is not expected to cause reproductive or developmental effects. |
| **Specific target organ toxicity - single exposure** | Not classified. |
| **Specific target organ toxicity - repeated exposure** | Not classified. |
| **Aspiration hazard** | Not an aspiration hazard. |
| **Chronic effects** | Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |
| **Further information** | This product has no known adverse effect on human health. |

## 12. Ecological information

| | |
|---|---|
| **Ecotoxicity** | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| **Persistence and degradability** | No data is available on the degradability of this product. |
| **Bioaccumulative potential** | No data available. |
| **Mobility in soil** | This product is moderately water soluble and may disperse in soil. |
| **Other adverse effects** | None known. |

## 13. Disposal considerations

| | |
|---|---|
| **Disposal instructions** | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| **Local disposal regulations** | Dispose in accordance with all applicable regulations. |
| **Hazardous waste code** | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| **Waste from residues / unused products** | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| **Contaminated packaging** | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

## 14. Transport information

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**US federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List**

Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)
Calcium carbonate (CAS 1317-65-3)
Kaolin (CAS 1332-58-7)
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)
Talc (CAS 14807-96-6)
Titanium dioxide (CAS 13463-67-7)

**US. New Jersey Worker and Community Right-to-Know Act**

Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)
Calcium carbonate (CAS 1317-65-3)
Kaolin (CAS 1332-58-7)
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)
Talc (CAS 14807-96-6)
Titanium dioxide (CAS 13463-67-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)
Calcium carbonate (CAS 1317-65-3)
Kaolin (CAS 1332-58-7)
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)
Talc (CAS 14807-96-6)
Titanium dioxide (CAS 13463-67-7)

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 24-September-2015

**Revision date** -

**Version #** 01

**HMIS® ratings** Health: 1
Flammability: 1
Physical hazard: 0

**Disclaimer** Kelly-Moore Paint Co., Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH TASK

## SECTION 1 - MANUFACTURER'S INFORMATION

**Manufacturer:** SuperClean Brands, Inc.
51 East Maryland Avenue
St. Paul, MN 55117-4615

**Telephone:** (651) 489-8211

**Facsimile:** (651) 489-8247

**Transportation Emergency (for immediate information about a chemical or to seek assistance from a manufacturer):** 1-800-535-5053

**Date Updated:** March 27, 2008

## SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

**Common Name:** Cleaner

**Product Use:** Multi-purpose cleaner/degreaser

**Product Identification:** Cleaner

| NFPA HAZARD RATINGS |
|---|
| HEALTH - 3 |
| FLAMMABILITY - 0 |
| REACTIVITY - 1 |
| OTHER - NOT APPLICABLE |

| INGREDIENTS - CHEMICAL/COMMON NAME | EXPOSURE LIMITS -TVL | LD 50 | LC 50 | % |
|---|---|---|---|---|
| Water [CASRN 7732 - 18 -5] | ND | ND | ND | 60-100 |
| 2-Butoxyethanol [CASRN 111-76-2] | PEL/TWA: 25 ppm skin (OSHA, ACGIH) | Oral, rabbit: 300 mg/kg<br>Dermal, rabbit: 220 mg/kg<br>Intravenous, rabbit: 252 mg/kg<br>Intraperitoneal, rat: 220 mg/kg | Inhalation, 7 hr. mouse: 700 ppm | 5-10 |
| Sodium xylene sulfonate [CASRN 1300-72-7] | ND | ND | ND | 1-5 |
| Nonylphenol ethoxylate [CASRN 127087-87-0] | ND | ND | ND | 1-5 |
| Sodium hydroxide [CASRN 1310-73-2] | PEL/TWA: 2 mg/m3 (OSHA, ACGIH), Ceiling | Oral, mouse: 40 mg/kg | ND | 1-5 |
| Sodium metasilicate pentahydrate [CASRN 6834-92-0] | ND | Oral, mouse: 770 mg/kg | ND | 1-5 |
| Other additives [CASRN, NA] | ND | ND | ND | 0.5-1.5 |
| Dye and fragrance [CASRN, NA] | ND | ND | ND | 0.1-1 |

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH TASK

## SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

**Boiling Point: ~** (212 F) 100 C

**Specific Gravity (Water=1):** 1.04

**Flash Point (COC):** NA

**Vapor Pressure (mm. Hg. @ 25 C):** ND

**Vapor Density (Air=1):** ND

**Percent Volatiles:** 85-95%

**Evaporation Rate (Water=1):** 1

**Solubility in Water:** Complete

**Freeze Point: ~28 f (2 c)**

**pH-Value:** Neat -13.0; 2% - 11.7

**Viscosity @ 4O 'c, cSt.:** ND

**Odor Threshold**: NA

**Coefficient of Water/Oil Distribution:** NA

**Appearance, Odor & Physical State:** Clear , purple liquid ; lemon odor

## SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

**FLAMMABILITY** Yes [ ] No [X] Aqueous fluid

**Fire Point (COC):** NA

**Autoignition Temperature:** NA

**Flammability limits in Air, % Vol.:** Upper - NA Lower - NA

**Extinguishing Media:**
Use media appropriate for any surrounding combustible substances (Waterfog, CO2, dry chemical, foam).

**Special Firefighting Procedures/Unusual and Explosion Hazards:**
Cool fire exposed containers with water. Do not enter confined areas without full protective equipment, including a positive pressure NIOSH approved self-contained breathing apparatus.

**EXPLOSION DATA**
**Sensitivity to Mechanical Impact:** NA
**Sensitivity to Static Discharge:** NA

## SECTION 5 - REACTIVITY DATA

**Stability:** Stable at ambient temperatures

**Hazardous Polymerization**: Will not occur

**Conditions and Materials to Avoid (Incompatibilities):**
Strong acids.
Strong oxidizers.
Avoid contact with glass.

**Hazardous Combustion or Decomposition Products:**
Smoke, fumes, oxides of carbon

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH TASK

## SECTION 6 - HEALTH HAZARD DATA

**Exposure Limits:** See Section II, Product/Ingredient

**PRIMARY ROUTES OF ENTRY:**

[X] Eye Contact
[X] Skin Contact
[ ] Skin Absorption
[X] Inhalation (Acute)
[ ] Inhalation (Chronic)
[ ] Ingestion

**EFFECTS OF EXPOSURE**

**Acute -DANGER! CORROSIVE LIQUID**

**Eyes:** Can cause severe Irritation or burns. Avoid contact.
**Skin:** Can cause severe irritation or burns. Avoid contact.
**Respiratory system:** Can cause irritation or burns following Inhalation of mists.
**Ingestion:** Can cause severe irritation or burns to digestive tract. Do not swallow.

**Chronic:** No chronic effects known.

**Medical Conditions Generally Aggravated by Exposure:** Pre-existing skin disorders.

**TOXICOLOGY DATA (Product)**
**Acute Data (Median Lethal Dose -species)**

**Oral LD50-rat:** 8.2 glkg
**Dermal LD50-** rabbit: ND
**Inhalation LC 50 -** rat : ND

**Irritancy Data**

**Eye irritation** - rabbit: ND
**Skin irritation -** rabbit : ND
**Sensitization -** guinea pig: ND

**Signs/Syrnptoms:**

**Eyes:** Irritation, redness, tearing, pain; Conjunctival swelling, burns.
**Skin:** Irritation, redness, extreme dryness and peeling, scarring.
**Respiratory system:** Nasal and respiratory irritation, pneumonitis, tissue damage

**Eye contact:** Immediately flush with Plenty of clean water for at least 15 minutes. Consult a physician Immediately.

**Skin contact:** Remove clothing. Immediately flush skin with plenty of clean water for 15 minutes. Call a physician Immediately.

**Inhalation:** Remove from area of exposure. If breathing is difficult or irritation persists, call a physician.

**Ingestion:** Do not induce vomiting. Give plenty of water or milk and call physician immediately. Do not give anything by mouth to an unconscious or convulsing person.

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH TASK

## SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

INFOTRAC EMERGENCY PHONE NUMBER **1-800535-5053** 24 hrs for U.S> transportation related spills, leaks, fire, exposure or accident.

**Spill or leak Procedures:**
Use best engineering practices when attempting cleanup of a large spill.

Large spills - Wear respirator and appropriate protective clothing. Stop source of leak if possible. Dike, contain spill and recover free liquid. Prevent entry into waterways. Neutralize and/or soak up residue with an inert absorbent such as clay, sand or free liquid. Prevent entry into waterways. Neutralize and/or soak up residue with an inert absorbent such as clay, sand or other suitable materials; Store and dispose of properly. Flush area with water. Where feasible and appropriate, remove contaminated soil.

Small spills - Neutralize and/or soak up spill with an inert absorbent such as clay, sand or other suitable materials: Store in a closed container and dispose of properly.

Regulatory spill reporting requirements may apply; Contact governmental agency or legal counsel for advice.

**Waste Disposal Method:**
If discarded as supplied, material meets RCRA characteristic definition of corrosivity, 0002. The toxicity characteristic has not been evaluated. Under RCRA, the applicable hazardous waste classification must be evaluated prior to disposal of the material. Use of the product, processing contamination may render the resulting material hazardous or alter waste classification.

All recovered material should be packaged, labeled, transported and disposed of or reclaimed in accordance with local, state and Federal regulations regarding air pollution, water pollution or health.
CAUTION: Improper disposal or reuse of the empty container may be hazardous and illegal. Cutting or welding of empty containers may cause explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place. RE to applicable governmental regulations.

## SECTION 8 - SPECIAL PROTECTION INFORMATION

**Ventilation:** General ventilation and local exhaust recommended. Build up of mists/vapors in the working atmosphere must be prevented.

**PERSONAL PROTECTIVE EQUIPMENT**

When Respiratory Respirators should be used when engineering or other controls are not technically feasible.
**Protection:** required, use only a MSHA/NIOSH approved air supplied respirator or an air-purifying respirator.
**Eye:** Safety goggles or face shield.
**Gloves (specify):** Impervious type gloves, such as rubber, neoprene, nitrile, polyethylene.
**Clothing:** Protective clothing such as a coverall or apron may be used to minimize skin contact.
**Footwear:** No special requirement.
**Other:** Eye wash and safety shower recommended in industrial settings

**Work Hygienic Practices:** Avoid skin and eye contact. Do not wear contaminated clothing; Launder before re-use or discard. Wash hands thoroughly after handling.

**Storage/Handling:** Maintain ambient temperatures. Avoid prolonged breathing of mists. Use with adequate ventilation. Corrosive to the eyes and skin. Severe internal irritation and damage can result when ingested avoid contact with eyes, skin or clothing

**Do not swallow. Keep container tightly closed when not in use.**

**Keep out of reach of children.**

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH TASK

## SECTION 9 - OTHER HAZARDOUS INFORMATION AND DEFINITIONS

**OSHA PEL:** The Occupational Safety and Health Administration's Permissible Exposure Limit, which is defined as the maximum concentration of contaminant to which a normal healthy individual may be exposed 8-hours per day, 40-hours per week, without experiencing adverse health effects over a working lifetime.

**ACGIH TLV:** American Conference of Governmental Industrial Hygienist's Threshold Limit Value, similar to the OSHA PEL but not considered a legal standard.

## SECTION 10 – TRANSPORTATION INFORMATION

**TRANSPORTATION**
**Special Shipping Information/DOT Proper Shipping Name:**
In inner packaging not over 1 L (**32 oz**) LIMITED QUANITIY, CONSUMER COMMODITY, ORM-D Per 49 CFR 173.154 (b) (1)

In inner packaging over 1 L (**1 gallon**) UN 1760, CORROSVE LIQUID, N.O.S. (SODIUM HYDROXIDE), 8, PG II

In inner packaging over 1 L ( **2.5 gallon, 5 gallon, 30 gallon, 55 gallon**) UN3266 CORROSIVE LIQUID, BASIC INORGANIC, N.O.S. (SODIUM HYDROXIDE, SODIUM METASILICATE), 8, PG II

**CHEMICALCONTROL REGULATIONS:**
**TSCA Status:** All components of this material appear on the Toxic Substance Control Act Chemical Substances Inventory.
**CEPA Status:** All components of this product appear on the Canadian Domestic substances list

Canadian Workplace Hazardous Material Identification System (WHMIS) Classification:
Material is a controlled product.
[ ] Class A - Compressed Gas
[ ] Class 8-1 - Flammable Gases
[ ] Class B-2 - Flammable Liquids
[ ] Class B-3 - Combustible Liquids
[ ] Class B-4 - Flammable Solids
[ ] Class 8-5 - Flammable Aerosols
[ ] Class C -Oxidizing Material
[ ] Class 8-6 - Reactive Flammable Materials
Class D, Div.1 - Materials Causing Immediate and Serious Toxic Effects
[ ] Class D-1A .Very Toxic Material
[ ] Class 0-1 B - Toxic Material
Class D. Div.2 - Materials Causing Other Toxic Effects
[ ] Class D-2A - Very Toxic Materials
[X] Class D-2B .Toxic Materials
[X] Glass E-Corrosive Material
[ ] Class 0-3 - 8iohazardous Infectious Material
[ ] Class F - Dangerously Reactive Material

**EPCRA . Emergency Planning and Community Right to Know Act (SARA TItle III):**
Section 302/304 Extremely Hazardous Substance:

**CERCLA Section 102(a) Hazardous Substance:** NA
Sodium hydroxide. Reportable quantity for product=25,OOO pounds (11,250 kg).

**Section 311 Hazard Category**
[X]Acute (immediate)
[ ] Chronic (delayed)
[ ] Fire
[ ] Sudden Release of Pressure
[ ] Reactive
[ ] Not applicable

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTITY: SUPERCLEAN TOUGH

**Section 313 Toxic Release Inventory Chemical/Category:**
Glycol Ethers, 6.5% (wt.) max.

U.S. STATE RIGHT TO KNOW LAWS

**New Jersey Worker and Community Right to Know Act, N.J.A.C. 8:59 -5 Labeling Information:** See Section II.
**California Safe Drinking Water Enforcement Act ( Propostion 65):**
This product contains one or more chemicals known to the State of California to cause cancer or reproductive harm.

# Safety Data Sheet

**Revision Number:** 006.0

**Issue date:** 08/01/2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** **LOCTITE SI 595 CLEAR RTV SILICONE known as LOCTITE® SUPERFLEX CLEAR RTV S**

**IDH number:** 1266142

**Product type:** Silicone

**Item number:** 1266142

**Restriction of Use:** None identified

**Region:** United States

**Company address:**
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

**Contact information:**
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

| EMERGENCY OVERVIEW | |
|---|---|
| WARNING: | CAUSES SKIN IRRITATION.<br>MAY CAUSE AN ALLERGIC SKIN REACTION.<br>CAUSES SERIOUS EYE IRRITATION. |

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| SKIN IRRITATION | 2 |
| EYE IRRITATION | 2A |
| SKIN SENSITIZATION | 1 |

**PICTOGRAM(S)**

**Precautionary Statements**

**Prevention:** Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

**Storage:** Not prescribed

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|---|---|
| Substituted Silane | Proprietary | 1 - 5 |
| Distillates (petroleum), hydrotreated middle | 64742-46-7 | 10 - 30 |
| Silicon dioxide | 7631-86-9 | 10 - 30 |
| Acetic acid | 64-19-7 | 1 - 5 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.

**Skin contact:** Wipe off paste with paper towel or cloth. Wash with soap and water. If symptoms develop and persist, get medical attention.

**Eye contact:** Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

**Ingestion:** Do not induce vomiting. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

**Symptoms:** See Section 11.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** None

**Unusual fire or explosion hazards:** None

**Hazardous combustion products:** Formaldehyde. Silica mist. Acrid smoke and fumes.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Scrape up as much material as possible. Spilled material will solidify. Store in a partly filled, closed container until disposal. Maintain good ventilation for large spills.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin and clothing. Do not handle contact lenses until all sealant has been removed from hands. Residual sealant may transfer to lenses and cause eye irritation.

**Storage:** Store in a dry area below 90° F. Keep container closed.

**For information on product shelf life contact Henkel Customer Service at (800) 243-4874.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Substituted Silane | None | None | None | None |
| Distillates (petroleum), hydrotreated middle | None | 5 mg/m3 PEL Mist. | None | None |
| Silicon dioxide | 6 mg/m3 TWA | 20 MPPCF TWA<br>0.8 mg/m3 TWA | None | 3 mg/m3 TWA<br>Respirable fraction. |
| Acetic acid | 15 ppm STEL<br>10 ppm TWA | 10 ppm (25 mg/m3) PEL | None | None |

**Engineering controls:** Ensure adequate ventilation, especially in confined areas. Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.

**Skin protection:** Chemical resistant, impermeable gloves. Nitrile gloves. Butyl rubber gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Paste
**Color:** Translucent
**Odor:** Acetic acid
**Odor threshold:** Not available.
**pH:** Not available.
**Vapor pressure:** < 10 mm hg (20 °C (68°F))
**Boiling point/range:** Not available.
**Melting point/ range:** Not available.
**Specific gravity:** 1.01 at 20 °C (68°F)
**Vapor density:** Heavier than air.
**Flash point:** > 93 °C (> 199.4 °F)
**Flammable/Explosive limits - lower:** 4 %
**Flammable/Explosive limits - upper:** 19.9 %
**Autoignition temperature:** Not available.
**Evaporation rate:** Not available.
**Solubility in water:** Not determined
**Partition coefficient (n-octanol/water):** Not available.
**VOC content:** 3.0 %; 30 g/l
**Viscosity:** Not available.
**Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous reactions:** Will not occur.

**Hazardous decomposition products:** Acetic acid is liberated slowly upon contact with moisture. Formaldehyde.

**Incompatible materials:** Acids. Bases. Oxidizing agents. Water.

**Reactivity:** Not available.

**Conditions to avoid:** Prolonged heating at temperatures above 150 °C. Exposure to moisture.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes

**Potential Health Effects/Symptoms**

**Inhalation:** Acetic acid produced during cure may irritate eyes, nose and throat. When heated to temperatures exceeding 300° F (150° C) in the presence of air, silicones may form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate the eyes, nose and throat. Safe handling conditions may be maintained by keeping formaldehyde vapor concentrations below the OSHA permissible limit.

**Skin contact:** Causes skin irritation. May cause allergic skin reaction.

**Eye contact:** Causes serious eye irritation.

**Ingestion:** Not expected to be harmful by ingestion.

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Substituted Silane | None | Irritant, Allergen |
| Distillates (petroleum), hydrotreated middle | None | Irritant |
| Silicon dioxide | Oral LD50 (RAT) = > 22,500 mg/kg | Nuisance dust |
| Acetic acid | Oral LD50 (RABBIT) = 1,200 mg/kg<br>Oral LD50 (RAT) = 3.53 g/kg<br>Oral LD50 (RAT) = 3.31 g/kg<br>Dermal LD50 (RABBIT) = 1,060 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 11.4 mg/l | Allergen, Corrosive, Eyes, Gastrointestinal, Immune system, Irritant, Kidney |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Substituted Silane | No | No | No |
| Distillates (petroleum), hydrotreated middle | No | No | No |
| Silicon dioxide | No | No | No |
| Acetic acid | No | No | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal. Cured rubber can be incinerated or landfilled following EPA and local regulations.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

**The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**International Air Transportation (ICAO/IATA)**

| | |
|---|---|
| **Proper shipping name:** | Not regulated |
| **Hazard class or division:** | None |
| **Identification number:** | None |
| **Packing group:** | None |

**Water Transportation (IMO/IMDG)**

| | |
|---|---|
| **Proper shipping name:** | Not regulated |
| **Hazard class or division:** | None |
| **Identification number:** | None |
| **Packing group:** | None |

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

| | |
|---|---|
| **TSCA 8 (b) Inventory Status:** | All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. |
| **TSCA 12 (b) Export Notification:** | None above reporting de minimis |
| **CERCLA/SARA Section 302 EHS:** | None above reporting de minimis |
| **CERCLA/SARA Section 311/312:** | Immediate Health |
| **CERCLA/SARA Section 313:** | None above reporting de minimis |
| **California Proposition 65:** | No California Proposition 65 listed chemicals are known to be present. |

**Canada Regulatory Information**

| | |
|---|---|
| **CEPA DSL/NDSL Status:** | All components are listed on or are exempt from listing on the Canadian Domestic Substances List. |

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Catherine Bimler, Regulatory Affairs Specialist

**Issue date:** 08/01/2014

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# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 03.18.2015 

**Tap Magic EP-Xtra**

## SECTION 1: Identification of the substance/mixture and of the supplier

**Product name**: **Tap Magic EP-Xtra**

**Manufacturer/Supplier Trade name**:

**Manufacturer/Supplier Article number**: **10004E, 10016E, 10128E, 10640E, 13840E, 17040E**

**Recommended uses of the product and restrictions on use**: Machining, Cutting, Tapping, and Metal Processing.

**Special Notes on Product Uses**: After use of this product, clean and lubricate metal surfaces to avoid staining and/or corrosion.

**Manufacturer Details**:

The StecoCorporation
2330 CantrellRoad
Little Rock, AR 72202 USA
501-375-5644
Website: www.tapmagic.com Email: steco@tapmagic.com

**Emergency telephone number**:

**ChemTel Inc.:** (800)255-3924, +1(813)248-0585

## SECTION 2: Hazards identification

**Classification of the substance or mixture**:

**Signal word**: None

**Hazard statements:** None

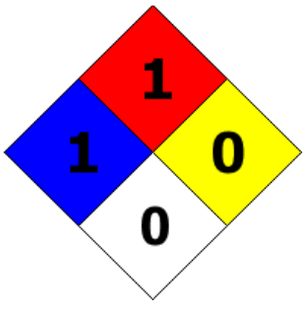
**Precautionary statements:** None

**Other Non-GHS Classification:**

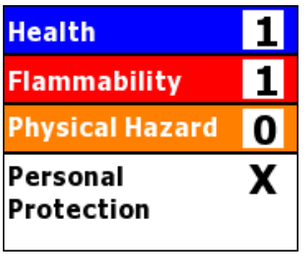
**WHMIS**

None

**NFPA/HMIS**




NFPA SCALE (0-4)




HMIS RATINGS (0-4)

## SECTION 3: Composition/information on ingredients

**Ingredients:**

| Tap Magic EP-Xtra | | |
|---|---|---|
| CAS 64742-53-6 | Hydrotreated oil | 1-60% |
| CAS 63449-39-8 | Paraffin wax compound | 1-25 % |
| | | Percentages are by weight |

## SECTION 4: First aid measures

**Description of first aid measures**

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

## SECTION 5: Firefighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:**

None identified.

**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:**

**Protective equipment:**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

Should not be released into environment.

**Methods and material for containment and cleaning up:**

Wear protective eyeware, gloves, and clothing. Refer to Section 8. Keep in suitable closed containers for disposal. Refer to Section 13. Always obey local regulations.

**Reference to other sections:** None

## SECTION 7: Handling and storage

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only with adequate ventilation.

**Conditions for safe storage, including any incompatibilities:**

Keep container tightly sealed. Store away from incompatible materials.

## SECTION 8: Exposure controls/personal protection



**Control Parameters:** No applicable occupational exposure limits.

**Appropriate Engineering controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

**Protection of skin:** Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Contact glove manufacturer for specific information. Wear appropriate clothing to prevent any possibility of skin contact.

**Eye protection:** Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:** Avoid contact with skin, eyes, and clothing.

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| **Appearance (physical state,** | Liquid, Amber | **Explosion limit lower**: **Explosion** | Not determined |
| **Odor**: | Mild | **Vapor pressure at 20°C**: | Not determined |
| **Odor threshold**: | Not determined | **Vapor density**: | Not determined |
| **pH-value**: | Neutral (non-aqueous) | **Relative density**: | Not determined |
| **Melting/Freezing point**: | Not determined | **Solubilities**: | Insoluble in water |
| **Boiling point/Boiling range**: | Not determined | **Partition coefficient (n- octanol/water)**: | Not determined |
| **Flash point (closedcup)**: | >150 C | **Auto/Self - ignition** | Not determined |

| Tap Magic EP-Xtra | | | |
|---|---|---|---|
| **Evaporation rate**: | Not determined | **Decomposition temperature**: | Not determined |
| **Flammability (solid, gaseous)**: | Not determined | **Viscosity**: | a. Kinematic: 24 Cst at 40 C<br>b. Dynamic: Not determined |
| **Density at 20°C**: | 0.93 g/ml | | |

## SECTION 10: Stability and reactivity

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials. Excess heat.

**Incompatible materials:**

Strong oxidizing agents. strong acids and alkali.

**Hazardous decomposition products:**

No data available.

## SECTION 11: Toxicological information

**Acute Toxicity**: No additional information.
**Chronic Toxicity**: No additional information.
**Corrosion Irritation**: No additional information.

**Sensitization**: No additional information.
**Numerical Measures**: No additional information.
**Carcinogenicity**:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Distillates (petroleum), hydrotrated light, kerosene -unspecified)

**Mutagenicity**: No additional information.
**Reproductive Toxicity**: No additional information.

## SECTION 12: Ecological information

**Ecotoxicity:** No additional information.
**Persistence and degradability**:

No data available.

**Bioaccumulative potential**:

No data available.

**Mobility in soil**:

No data available.

**Other adverse effects**:

None identified.

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3



## SECTION 13: Disposal considerations

**Waste disposalrecommendations**:

Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11).

## SECTION 14: Transport information

**US DOT**

**UN Number:**
ADR, ADN, DOT, IMDG, IATA None

**Limited Quantity Exception:** None

**Bulk:**
**RQ (if applicable):** None
**Proper shipping Name:** None

**Hazard Class:** None
**Packing Group:** N/A
**Marine Pollutant (if applicable):** No
additional information.

**Comments:** None

**Non Bulk:**
**RQ (if applicable):** None
**Proper shipping Name:** None

**Hazard Class:** None
**Packing Group:** N/A
**Marine Pollutant (if applicable):** No
additional information.

**Comments:** None

## SECTION 15: Regulatory information

**United States (USA)**

**SARA Section 311/312 (Specific toxic chemical listings)**:

Acute, Chronic

**SARA Section 313 (Specific toxic chemical listings)**:

None of the ingredients are listed.

**RCRA (hazardous waste code)**:

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act)**:

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**:

None of the ingredients are listed.

**Proposition 65 (California)**:

**Chemicals known to cause cancer**:

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females**:

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males**:

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity**:

None of the ingredients are listed.

**Canada**

**Canadian Domestic Substances List (DSL)**:

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%)**:

None of the ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 1%)**:

None of the ingredients are listed.

## SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note.

**GHS Full Text Phrases**: None

**Abbreviations and Acronyms**:

IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3



IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

**Effective date**:03.18.2015
**Last updated**:07.16.2015

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **LPS® Tapmatic® Natural**

**Other means of identification**

**Part Number** 44220, 44230, 44240

**Recommended use** A general purpose, industrial cutting fluid designed for cutting and machining steel, aluminum and other types of metals.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Manufacturer**

**Company name** LPS Laboratories, a division of Illinois Tool Works, Inc.

**Address** 4647 Hugh Howell Rd.
Tucker, GA 30084

**Country** (U.S.A.)

Tel: +1 770-243-8800

**In Case of Emergency** 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

**Website** www.lpslabs.com

**E-mail** sds@lpslabs.com

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**Hazard symbol** None.

**Signal word** None.

**Hazard statement** The mixture does not meet the criteria for classification.

**Precautionary statement**

**Prevention** Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Store away from incompatible materials.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Methyl Oleate | | 67762-26-9 | 5 - < 10 |

## 4. First-aid measures

**Inhalation** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth thoroughly. Get medical attention if symptoms occur. If ingestion of a large amount does occur, call a poison control center immediately.

**Most important symptoms/effects, acute and delayed** Direct contact with eyes may cause temporary irritation.

| | |
|---|---|
| **Indication of immediate medical attention and special treatment needed** | Provide general supportive measures and treat symptomatically. |
| **General information** | Call a POISON CENTER or doctor/physician if you feel unwell. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Specific hazards arising from the chemical** | No unusual fire or explosion hazards noted. |
| **Special protective equipment and precautions for firefighters** | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| **Fire-fighting equipment/instructions** | In case of fire and/or explosion do not breathe fumes. Cool containers exposed to heat with water spray and remove container, if no risk is involved. |
| **Specific methods** | Move containers from fire area if you can do so without risk. |
| **General fire hazards** | No unusual fire or explosion hazards noted. |

## 6. Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8 of the SDS. |
| **Methods and materials for containment and cleaning up** | Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water .<br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |

## 7. Handling and storage

| | |
|---|---|
| **Precautions for safe handling** | Avoid contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. |
| **Conditions for safe storage, including any incompatibilities** | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

| | |
|---|---|
| **Occupational exposure limits** | No exposure limits noted for ingredient(s). |
| **Biological limit values** | No biological exposure limits noted for the ingredient(s). |
| **Appropriate engineering controls** | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended. |
| **Skin protection** | |
| **Hand protection** | For prolonged or repeated skin contact use suitable protective gloves. Chemical resistant gloves are recommended. |
| **Other** | Avoid contact with the skin. Wear suitable protective clothing and gloves. Chemical resistant gloves. |
| **Respiratory protection** | Do not breathe dust/fume/gas/mist/vapors/spray. In case of insufficient ventilation, wear suitable respiratory equipment. |
| **Thermal hazards** | None known. |
| **General hygiene considerations** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | Liquid. |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Green |

| | |
|---|---|
| **Odor** | Spice |
| **Odor threshold** | Not established |
| **pH** | Not applicable |
| **Melting point/freezing point** | Not established |
| **Initial boiling point and boiling range** | Not established |
| **Flash point** | 348.8 °F (176.0 °C) Tag Closed Cup |
| **Evaporation rate** | None |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | Not established |
| **Flammability limit - upper (%)** | Not established |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | Not established |
| **Vapor density** | Not established |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Not soluble in cold water |
| **Partition coefficient (n-octanol/water)** | > 1 |
| **Auto-ignition temperature** | Not established |
| **Decomposition temperature** | Not established |
| **Viscosity** | Not established |
| **Other information** | |
| **Heat of combustion** | Not established |
| **Percent volatile** | 0 % |
| **Specific gravity** | 0.88 - 0.89 @ 20°C |
| **VOC (Weight %)** | 0 % per US State and Federal Consumer Product Regulations |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | Hazardous polymerization does not occur. |
| **Conditions to avoid** | This product may react with oxidizing agents. Avoid high temperatures. |
| **Incompatible materials** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Carbon oxides. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | May cause discomfort if swallowed. |
| **Inhalation** | May cause irritation to the respiratory system. |
| **Skin contact** | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. |
| **Eye contact** | May be irritating to eyes. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Direct contact with eyes may cause temporary irritation. |

**Information on toxicological effects**

| | |
|---|---|
| **Acute toxicity** | Based on available data, the classification criteria are not met. |

| Components | Species | Test Results |
|---|---|---|
| Methyl Oleate (CAS 67762-26-9) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 2000 mg/kg |
| *Oral* | | |
| LD50 | Rat | > 5000 mg/kg |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization**

**Respiratory sensitization** Based on available data, the classification criteria are not met.

**Skin sensitization** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Chronic effects** Prolonged or repeated contact may cause drying, cracking, or irritation.

**Further information** This product has no known adverse effect on human health.

## 12. Ecological information

**Ecotoxicity** Not expected to be harmful to aquatic organisms.

**Persistence and degradability** Expected to biodegrade.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**
LPS® Tapmatic® Natural > 1

**Mobility in soil** Readily absorbed into soil.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

| | |
|---|---|
| **Hazard categories** | Immediate Hazard - No<br>Delayed Hazard - No<br>Fire Hazard - No<br>Pressure Hazard - No<br>Reactivity Hazard - No |
| **SARA 302 Extremely hazardous substance** | No |
| **SARA 311/312 Hazardous chemical** | No |

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

| | |
|---|---|
| **Safe Drinking Water Act (SDWA)** | Not regulated. |

**US state regulations**

**US. Massachusetts RTK - Substance List**

Not regulated.

**US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

Not regulated.

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

Not Listed.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

| | |
|---|---|
| **Issue date** | 10-08-2013 |
| **Version #** | 01 |
| **NFPA ratings** | Health: 1<br>Flammability: 1<br>Instability: 0 |
| **Disclaimer** | Not available. |

EI DUPONT DE NEMOURS & CO INC -- THINNER & REDUCERS, 441-20 -- 8010-00N066540

========== Product Identification ==========

Product ID:THINNER & REDUCERS, 441-20
MSDS Date:01/01/1995
FSC:8010
NIIN:00N066540
MSDS Number: BZHTZ
=== Responsible Party ===
Company Name:EI DUPONT DE NEMOURS & CO INC
Address:1007 MARKET ST
City:WILMINGTON
State:DE
ZIP:19899
Country:US
Info Phone Num:800-441-9442
Emergency Phone Num:800-441-3637;800-424-9300(CHEMTREC)
CAGE:EO716
=== Contractor Identification ===
Company Name:E.I. DUPONT DE NEMOURS & CO
Address:1007 MARKET STREET
Box:City:WILMINGTON
State:DE
ZIP:19898
Country:US
Phone:800-441-7515;800-441-9442
CAGE:18873
Company Name:EI DUPONT DE NEMOURS CO/AUTOMOTIVE PRODS
Address:1007 MARKET ST
City:WILMINGTON
State:DE
ZIP:19898
Country:US
Phone:(800) 441-7515
CAGE:EO716

========== Composition/Information on Ingredients ==========

Ingred Name:ACETONE (SARA 313) (CERCLA). VP:184 @ 20C.
CAS:67-64-1
RTECS #:AL3150000
Fraction by Wt: 26%
OSHA PEL:1000 PPM
ACGIH TLV:750 PPM;1000 STEL
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:PROPIONIC ACID, 3-ETHOXY-, ETHYL ESTER; (ETHYL-3-ETHOXY
PROPIONATE)
CAS:763-69-9
RTECS #:UF3325000
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:TOLUENE (SARA 313) (CERCLA). VP:38.7 @ 20C.
CAS:108-88-3
RTECS #:XS5250000
Fraction by Wt: 15%
OSHA PEL:200 PPM
ACGIH TLV:50 PPM, S
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:VM&P NAPHTHA
CAS:64742-89-8
Other REC Limits:50 PPM (MFR)
OSHA PEL:300 PPM (MFR)

ACGIH TLV:300 PPM (MFR)

Ingred Name:XYLENE  (SARA 313) (CERCLA). VP:25 @ 20C.
CAS:1330-20-7
RTECS #:ZE2100000
Fraction by Wt: 2%
OSHA PEL:100 PPM
ACGIH TLV:100 PPM;150 STEL
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

========== Hazards Identification ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES  Skin:YES  Ingestion:YES
Reports of Carcinogenicity:NTP:NO  IARC:NO OSHA:NO
Health Hazards Acute and Chronic:INGEST:GI DISTRESS. INHAL:MAY CAUSE NOSE & THROAT IRRIT. RPTD & PRLNG OVEREXP TO SOLVS MAY LEAD TO PERM BRAIN & NERV SYS DMG. EYE WATERING, HDCHS, NAUS, DIZZ & LOSS OF COORD ARE SIGNS THAT SOLV LEVELS ARE TOO HIGH. EYE CONT:MAY CAUSE IRRIT/BURNING. SKIN:RPTD/PRLNG LIQ CONT MAY CAUSE IRRIT W/DISCOMFORT & DERM. ING 2:HAS BEEN TOX TO FETUS IN LAB ANIMALS AT DOSES THAT ARE TOX TO MOTHER. ING 3:RECURRE NT OVEREXP MAY RSLT IN LIVER & KIDNEY INJURY. HIGH AIRBORNE LEVELS HAVE PRDCD IRREG HEART BEATS IN ANIMALS & OCCAS PALPITATIONS IN HUMANS. RATS EXPOS TO VERY HIGH AIRBORNE LEVELS HAVE EXHIBITED HIGH ( EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:HLTH HAZ: FREQUENCY HEARING DEFICITS. SIGNIFICANCE OF THIS TO MAN IS UNKNOWN. WARNING:THIS CHEM IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS & OTHER REPRO HARM. ING 4:LAB STUDIES W/RATS HAVE SHOWN THAT PETRO DISTILS CAUSE KIDNEY DMG & KIDNEY/LIVER TUMORS. SEVERAL STUDIES EVALUATING PETRO WORKERS HAVE NOT SHOWN SIGNIFICANT INCR OF KIDNEY DMG/INCR IN KIDNEY/LIVER TUMORS. ING 5: HIGH CO NCS HAVE CAUSED EMBRYOTOX EFTS IN LAB ANIMALS. RECURRENT OVEREXP MAY RSLT IN LIVER & KIDNEY INJURY. CAN BE ABSORBED THRU SKIN IN HARMFUL AMTS. NOTE:TOLUENE APPEARS ON THE NAVY LIST OF OCCUP CHEM REPRO HAZS. SEEK CONSULTATION FROM (SUPDAT)
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

========== First Aid Measures ==========

First Aid:INGEST:CALL MD IMMEDIATELY & HAVE NAMES OF INGREDIENT AVAILABLE. INHAL:REMOVE TO FRESH AIR. IF BREATHING DIFFICULTY PERSISTS, OR OCCURS LATER, CONSULT MD. EYES:FLUSH W/PLENTY OF WATER FOR AT LEAST 15 MINUTES; CALL MD. SKIN:WASH W/SOAP & WATER. IF IRRITATION OCCURS, CONTACT MD.

========== Fire Fighting Measures ==========

Flash Point Method:CC
Flash Point:>20F,>-7C
Lower Limits:0.8%
Upper Limits:19%
Extinguishing Media:WATER SPRAY, FOAM, CARBON DIOXIDE, DRY CHEMICAL.
Fire Fighting Procedures:USE NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE EQUIPMENT . WATER FROM FOG NOZZLES MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP.
Unusual Fire/Explosion Hazard:WHEN HEATED ABOVE FLASH POINT, EMITS FLAMM VAPS WHICH, WHEN MIXED W/AIR, CAN BURN/BE EXPLO. FINE MISTS/SPRAYS MAY BE FLAMM AT TEMPS BELOW FLASH POINT.

========== Accidental Release Measures ==========

Spill Release Procedures:VENTILATE AREA. REMOVE SOURCES OF IGNITION. PREVENT SKIN CONTACT & BREATHING OF VAPOR. WEAR A PROPERLY FITTED NIOSH/MSHA APPROVED VAPOR/PARTICULATE RESPIRATOR (TC-23C). CONFINE & REMOVE W/INERT ABSORB ENT.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:OSHA STORAGE:1B. DO NOT BREATHE VAPORS OR MISTS. OBSERVE LABEL PRECAUTIONS. KEEP AWAY FROM HEAT, SPARKS & FLAME. CLOSE CONTAINER AFTER EACH USE.
Other Precautions:GROUND CONTAINERS WHEN POURING. DO NOT STORE ABOVE 120F. DO NOT SAND, FLAME CUT, BRAZE OR WELD DRY COATING W/OUT A NIOSH/MSHA APPROVED RESPIRATOR OR APPROPRIATE VENTILATION.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:WEAR PROPERLY FITTED NIOSH/MSHA APPRVD VAP/PARTICULATE RESP FOR USE W/PAINT DURING APPLICATION & UNTIL ALL VAPS & SPRAY MISTS ARE EXHAUSTED. IN ALL CASES, FOLLOW RESP MFR'S DIRECTIONS FOR RESP USE. DO NOT PERMIT ANYONE W/OUT PROT IN PAINTING AREA.
Ventilation:PROVIDE SUFFICIENT VENTILATION IN VOLUME & PATTERN TO KEEP CONTAMINANTS BELOW APPLICABLE OSHA REQUIREMENTS.
Protective Gloves:NEOPRENE GLOVES.
Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .
Other Protective Equipment:EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET ANSI DESIGN CRITERIA . COVERALLS ARE RECOMMENDED.
Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING & BEFORE EATING OR SMOKING.
Supplemental Safety and Health
EFTS OF OVEREXP: APPROP HLTH PROFESSIONALS CONCERNING LATEST HAZ LIST INFO & SAFE HNDLG & EXPOS INFO .

========== Physical/Chemical Properties ==========

Boiling Pt:B.P. Text:>129F,>54C
Vapor Pres:SEE INGS
Vapor Density:HVR/AIR
Spec Gravity:0.79
VOC Grams/Liter:6.6
Evaporation Rate & Reference:SLOWER THAN ETHER
Solubility in Water:MISCIBLE
Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.
Percent Volatiles by Volume:76.1-100

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
NONE REASONABLY FORESEEABLE.
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:CO, CO*2, SMOKE.

========== Disposal Considerations ==========

Waste Disposal Methods:DO NOT ALLOW MATERIAL TO CONTAMINATE GROUND WATER SYSTEMS. INCINERATE ABSORBED MATERIAL I/A/W FEDERAL, STATE & LOCAL REQUIREMENTS. DO NOT INCINERATE IN CLOSED CONTAINERS.

LOCTITE
1001 Trout Brook Crossing
Rocky Hill, CT 06067-3910
Telephone: (860) 571-5100
FAX: (860) 571-5465

# Product Description Sheet
# Speedbonder® Product H3300
**formerly Hysol® H3300**

**Industrial Products, October 2002**

## Description
Loctite® Speedbonder® H3300 is a highly thixotropic, two component, room temperature curing, 1:1 mix ratio, methacrylate adhesive system. H3300 is formulated to provide fixturing strength within 6 - 12 minutes. This adhesive forms resilient bonds and maintains its strength over a wide range of temperatures. H3300 is suitable for bonding a variety of substrates with a minimum of surface preparation.

Recommended Substrates: PVC, polycarbonate, acrylic, ABS, stainless steel and FRP

## Features
Non-sagging gaps filled to .375 inch
Superior impact and peel strength
Little or no surface preparation
Offers excellent tolerance to off-ratio mixing
Rapid room temperature cure
100% reactive
Excellent environmental resistance

| Typical Uncured Properties | Part A | Part B | Mixed |
|---|---|---|---|
| Open Time @ 70°F, mins | -- | -- | 4 to 6 |
| Fixture Time @ 70°F, mins | -- | -- | 6 to 12 |
| Color | Pale Milky White | Tan to Yellow | Light Yellow |
| Viscosity, cP | 85,000 to 125,000 | 80,000 to 160,000 | -- |
| Specific Gravity | 1.03 | 1.05 | 1.04 |
| Weight per Gallon, Lbs | 8.58 | 8.75 | 8.67 |
| Mix Ratio | | | |
| By weight | 1 | 1 | -- |
| By volume | 1 | 1 | -- |

| Typical Cured Properties | Typical Value |
|---|---|
| Tensile Strength, psi, ASTM D 638 | 4100-4300 |
| Elongation, %, ASTM D 638 | 20-40 |
| Shear Strength @ 77°F, psi, Etched Aluminum ASTM D 1002 | 3,000 Minimum |
| Shear Strength @ 180°F, psi, Etched Aluminum ASTM D 1002 | 1900-2100 |
| Hardness, Shore D | 75-80 |

| Shear Strength, psi, ASTM D1002 | Typical Value |
|---|---|
| Aluminum | 3250 |
| Steel | 3810 |
| Stainless Steel | 2900 |
| Zinc Dichromate | 1100 |
| Polycarbonate | 990 |
| Fiberglas | >1650 |
| Gelcoat | >1420 |

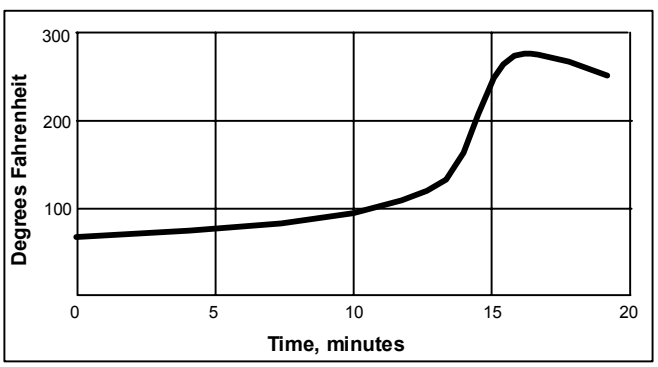
| Side Impact Strength, kJ/m$^2$, GM9751P test | Typical value |
|---|---|
| Aluminum | 25 to 30 |

| Shear Strength after Environmental Exposure, psi, Steel, ASTM D 1002 | | |
|---|---|---|
| | 2 Weeks | 4 Weeks |
| 120°F/100% RH | 2630 | 1710 |

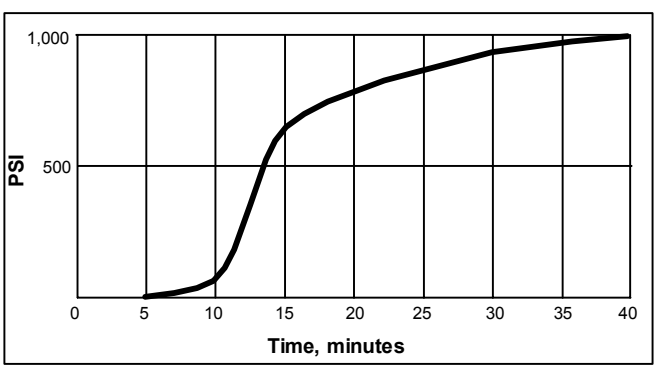
| Block Shear, ASTM D4501, psi | Typical Value |
|---|---|
| PVC | 2120 |
| ABS | 1880 |

| T-peel, pli, ASTM D1876 | Typical Value |
|---|---|
| Steel | 45 to 55 |
| Aluminum | 15 to 20 |
| Etched Alumunim | 30 |

**Peak Exotherm Curve –10 Gram Mass**




**Development of Bond Strength**
Strength Build on FRP




**GENERAL INFORMATION**
**This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.**

**For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).**

**Handling and Application**

Mixing: It is highly recommended that either meter mix equipment or cartridges with static mix nozzles be used to properly ratio and dispense the adhesive. For hand mixing, combine Part A and Part B in the correct ratio and mix thoroughly. Once mixed, H3300 should achieve a uniform color. This is important! Heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

Applying: Bonding surfaces should be clean, dry, and free of contamination. Extensive surface preparation is not required for H3300, and good bonds can be formed on most substrates after a solvent wipe. To assure maximum bond strength, surfaces must be mated within the adhesive's open time. Use enough material to completely fill the joint when parts are clamped.

Curing: Parts should remain undisturbed during the interval of time between the material's open time and fixture time. After the fixture time is achieved the material has reached handling strength. Temperature below 55°F will slow the cure; above 85°F will accelerate cure rate.

Clean Up: It is important to clean up excess adhesive from the work area and application equipment before it cures. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive. Speedbonder H3300 is flammable. Keep containers tightly closed after use. Keep away from heat, sparks, and open flames.

**Storage**

Speedbonder adhesives should be stored in unopened containers in a dry location at 40°F +/- 5 F. For further specific shelf life information, contact your local Technical Service Center.

**Packaging**

50ml EPS cartridges
400ml EPS cartridges
5 Gallon Pails
55 Gallon Drums

**Note**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

# Safety Data Sheet

**Revision Number:** 008.0

**Issue date:** 08/21/2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** LOCTITE® 242™ THREADLOCKER MEDIUM STRENGTH
**IDH number:** 135354
**Product type:** Anaerobic Sealant
**Item number:** 24221
**Restriction of Use:** None identified
**Region:** United States

**Company address:**
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

**Contact information:**
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

| EMERGENCY OVERVIEW | |
|---|---|
| WARNING: | CAUSES SKIN AND EYE IRRITATION.<br>MAY CAUSE AN ALLERGIC SKIN REACTION. |

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| SKIN IRRITATION | 2 |
| EYE IRRITATION | 2B |
| SKIN SENSITIZATION | 1 |

**PICTOGRAM(S)**

**Precautionary Statements**

**Prevention:** Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

**Storage:** Not prescribed

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|---|---|
| Polyglycol dimethacrylate | Proprietary | 60 - 100 |

| | | |
|---|---|---|
| Polyglycol oleate | Proprietary | 10 - 30 |
| Saccharin | 81-07-2 | 1 - 5 |
| Silica, amorphous, fumed, crystal-free | 112945-52-5 | 1 - 5 |
| Cumene hydroperoxide | 80-15-9 | 1 - 5 |
| Propane-1,2-diol | 57-55-6 | 1 - 5 |
| Cumene | 98-82-8 | 0.1 - 1 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Skin contact:** Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Ingestion:** DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Symptoms:** See Section 11.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

**Unusual fire or explosion hazards:** Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

**Hazardous combustion products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:** Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

**Storage:** For safe storage, store between 0 °C (32°F) and 32 °C (89.6 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

**For information on product shelf life contact Henkel Customer Service at (800) 243-4874.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Polyglycol dimethacrylate | None | None | None | None |
| Polyglycol oleate | None | None | None | None |
| Saccharin | None | None | None | None |
| Silica, amorphous, fumed, crystal-free | 10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction. | 20 MPPCF TWA 0.8 mg/m3 TWA | None | None |
| Cumene hydroperoxide | None | None | 1 ppm (6 mg/m3) TWA (SKIN) | None |
| Propane-1,2-diol | None | None | 10 mg/m3 TWA Aerosol. | None |
| Cumene | 50 ppm TWA | 50 ppm (245 mg/m3) PEL (SKIN) | None | None |

**Engineering controls:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

**Skin protection:** Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Blue
**Odor:** Mild
**Odor threshold:** Not available.
**pH:** Not applicable
**Vapor pressure:** < 5 mm hg (27 °C (80.6 °F))
**Boiling point/range:** > 149 °C (> 300.2 °F)
**Melting point/ range:** Not available.
**Specific gravity:** 1.1 at 23.9 °C (75.02 °F)
**Vapor density:** Not available.
**Flash point:** > 93.3 °C (> 199.94 °F) Tagliabue closed cup
**Flame projection:** Not applicable
**Flammable/Explosive limits - lower:** 2.6 % (propylene glycol)
**Flammable/Explosive limits - upper:** 12.5 % (propylene glycol)

| | |
|---|---|
| **Autoignition temperature:** | Not determined |
| **Evaporation rate:** | Not available. |
| **Solubility in water:** | Slight |
| **Partition coefficient (n-octanol/water):** | Not available. |
| **VOC content:** | 0.56 %; 6.17 g/l |
| **Viscosity:** | Not available. |
| **Decomposition temperature:** | Not available. |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of storage and use.

**Hazardous reactions:** None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

**Hazardous decomposition products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

**Incompatible materials:** Strong oxidizing agents. Free radical initiators. Strong reducing agents. Alkalis. Oxygen scavengers. Other polymerization initiators. Copper. Iron. Zinc. Aluminum. Rust.

**Reactivity:** Not available.

**Conditions to avoid:** Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

**Potential Health Effects/Symptoms**

| | |
|---|---|
| **Inhalation:** | Inhalation of vapors or mists of the product may be irritating to the respiratory system. |
| **Skin contact:** | Causes skin irritation. May cause allergic skin reaction. |
| **Eye contact:** | Causes eye irritation. |
| **Ingestion:** | May cause gastrointestinal tract irritation if swallowed. |

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Polyglycol dimethacrylate | None | Allergen, Irritant |
| Polyglycol oleate | None | Irritant |
| Saccharin | None | No Target Organs |
| Silica, amorphous, fumed, crystal-free | None | Nuisance dust |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| Propane-1,2-diol | Oral LD50 (RABBIT) = 18 g/kg<br>Oral LD50 (RAT) = 30 g/kg | Irritant |
| Cumene | Oral LD50 (RAT) = 2.91 g/kg<br>Oral LD50 (RAT) = 1,400 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 8000 ppm | Central nervous system, Irritant, Lung |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Polyglycol dimethacrylate | No | No | No |
| Polyglycol oleate | No | No | No |
| Saccharin | No | No | No |
| Silica, amorphous, fumed, crystal-free | No | No | No |
| Cumene hydroperoxide | No | No | No |
| Propane-1,2-diol | No | No | No |
| Cumene | No | Group 2B | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

**The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**TSCA 12 (b) Export Notification:** None above reporting de minimis

**CERCLA/SARA Section 302 EHS:** None above reporting de minimis
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health
**CERCLA/SARA Section 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
**CERCLA Reportable quantity:** Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

**California Proposition 65:** This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Sheila Gines, Regulatory Affairs Specialist

**Issue date:** 08/21/2014

# Safety Data Sheet

**Revision Number:** 008.0

**Issue date:** 08/21/2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** LOCTITE® 242™ THREADLOCKER MEDIUM STRENGTH
**IDH number:** 135354
**Product type:** Anaerobic Sealant
**Item number:** 24221
**Restriction of Use:** None identified
**Region:** United States
**Company address:**
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067
**Contact information:**
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

| EMERGENCY OVERVIEW | |
|---|---|
| WARNING: | CAUSES SKIN AND EYE IRRITATION.<br>MAY CAUSE AN ALLERGIC SKIN REACTION. |

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| SKIN IRRITATION | 2 |
| EYE IRRITATION | 2B |
| SKIN SENSITIZATION | 1 |

**PICTOGRAM(S)**

**Precautionary Statements**

**Prevention:** Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

**Storage:** Not prescribed

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|---|---|
| Polyglycol dimethacrylate | Proprietary | 60 - 100 |

| | | |
|---|---|---|
| Polyglycol oleate | Proprietary | 10 - 30 |
| Saccharin | 81-07-2 | 1 - 5 |
| Silica, amorphous, fumed, crystal-free | 112945-52-5 | 1 - 5 |
| Cumene hydroperoxide | 80-15-9 | 1 - 5 |
| Propane-1,2-diol | 57-55-6 | 1 - 5 |
| Cumene | 98-82-8 | 0.1 - 1 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Skin contact:** Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Ingestion:** DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Symptoms:** See Section 11.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

**Unusual fire or explosion hazards:** Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

**Hazardous combustion products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:** Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

**Storage:** For safe storage, store between 0 °C (32°F) and 32 °C (89.6 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

**For information on product shelf life contact Henkel Customer Service at (800) 243-4874.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Polyglycol dimethacrylate | None | None | None | None |
| Polyglycol oleate | None | None | None | None |
| Saccharin | None | None | None | None |
| Silica, amorphous, fumed, crystal-free | 10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction. | 20 MPPCF TWA 0.8 mg/m3 TWA | None | None |
| Cumene hydroperoxide | None | None | 1 ppm (6 mg/m3) TWA (SKIN) | None |
| Propane-1,2-diol | None | None | 10 mg/m3 TWA Aerosol. | None |
| Cumene | 50 ppm TWA | 50 ppm (245 mg/m3) PEL (SKIN) | None | None |

**Engineering controls:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

**Skin protection:** Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Blue
**Odor:** Mild
**Odor threshold:** Not available.
**pH:** Not applicable
**Vapor pressure:** < 5 mm hg (27 °C (80.6 °F))
**Boiling point/range:** > 149 °C (> 300.2 °F)
**Melting point/ range:** Not available.
**Specific gravity:** 1.1 at 23.9 °C (75.02 °F)
**Vapor density:** Not available.
**Flash point:** > 93.3 °C (> 199.94 °F) Tagliabue closed cup
**Flame projection:** Not applicable
**Flammable/Explosive limits - lower:** 2.6 % (propylene glycol)
**Flammable/Explosive limits - upper:** 12.5 % (propylene glycol)

| | |
|---|---|
| **Autoignition temperature:** | Not determined |
| **Evaporation rate:** | Not available. |
| **Solubility in water:** | Slight |
| **Partition coefficient (n-octanol/water):** | Not available. |
| **VOC content:** | 0.56 %; 6.17 g/l |
| **Viscosity:** | Not available. |
| **Decomposition temperature:** | Not available. |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of storage and use.

**Hazardous reactions:** None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

**Hazardous decomposition products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

**Incompatible materials:** Strong oxidizing agents. Free radical initiators. Strong reducing agents. Alkalis. Oxygen scavengers. Other polymerization initiators. Copper. Iron. Zinc. Aluminum. Rust.

**Reactivity:** Not available.

**Conditions to avoid:** Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

**Potential Health Effects/Symptoms**

| | |
|---|---|
| **Inhalation:** | Inhalation of vapors or mists of the product may be irritating to the respiratory system. |
| **Skin contact:** | Causes skin irritation. May cause allergic skin reaction. |
| **Eye contact:** | Causes eye irritation. |
| **Ingestion:** | May cause gastrointestinal tract irritation if swallowed. |

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Polyglycol dimethacrylate | None | Allergen, Irritant |
| Polyglycol oleate | None | Irritant |
| Saccharin | None | No Target Organs |
| Silica, amorphous, fumed, crystal-free | None | Nuisance dust |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| Propane-1,2-diol | Oral LD50 (RABBIT) = 18 g/kg<br>Oral LD50 (RAT) = 30 g/kg | Irritant |
| Cumene | Oral LD50 (RAT) = 2.91 g/kg<br>Oral LD50 (RAT) = 1,400 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 8000 ppm | Central nervous system, Irritant, Lung |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Polyglycol dimethacrylate | No | No | No |
| Polyglycol oleate | No | No | No |
| Saccharin | No | No | No |
| Silica, amorphous, fumed, crystal-free | No | No | No |
| Cumene hydroperoxide | No | No | No |
| Propane-1,2-diol | No | No | No |
| Cumene | No | Group 2B | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

**The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**TSCA 12 (b) Export Notification:** None above reporting de minimis

**CERCLA/SARA Section 302 EHS:** None above reporting de minimis
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health
**CERCLA/SARA Section 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
**CERCLA Reportable quantity:** Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

**California Proposition 65:** This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Sheila Gines, Regulatory Affairs Specialist

**Issue date:** 08/21/2014

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TECHNI-TOOL® Tomorrow's Products Shipped Today

# Safety Data Sheet

Henkel

**Revision Number:** 009.0

**Issue date:** 08/21/2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** **LOCTITE® 271™ THREADLOCKER HIGH STRENGTH Part No. 27121**
**Product type:** Anaerobic Sealant
**Restriction of Use:** None identified
**Company address:**
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

**IDH number:** 135380
**Item number:** 27121
**Region:** United States
**Contact information:**
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

WARNING: CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE IRRITATION.

| HAZARD CLASS | HAZARD CATEGORY |
|---|---|
| SKIN IRRITATION | 2 |
| EYE IRRITATION | 2A |
| SKIN SENSITIZATION | 1 |

**PICTOGRAM(S)**

**Precautionary Statements**

**Prevention:** Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

**Storage:** Not prescribed

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|---|---|
| Polyglycol dimethacrylate | Proprietary | 60 - 100 |
| Saccharin | 81-07-2 | 1 - 5 |
| Cumene hydroperoxide | 80-15-9 | 1 - 5 |
| Cumene | 98-82-8 | 0.1 - 1 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

## 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Skin contact:** Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Ingestion:** DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Symptoms:** See Section 11.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

**Unusual fire or explosion hazards:** Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

**Hazardous combustion products:** Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

## 6. ACCIDENTAL RELEASE MEASURES

**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.**

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:** Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

**Storage:** For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

**For information on product shelf life contact Henkel Customer Service at (800) 243-4874.**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.**

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Polyglycol dimethacrylate | None | None | None | None |
| Saccharin | None | None | None | None |
| Cumene hydroperoxide | None | None | 1 ppm (6 mg/m3) TWA (SKIN) | None |
| Cumene | 50 ppm TWA | 50 ppm (245 mg/m3) PEL (SKIN) | None | None |

**Engineering controls:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

**Skin protection:** Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Butyl rubber gloves. Natural rubber gloves. Neoprene gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Red
**Odor:** Mild
**Odor threshold:** Not available.
**pH:** Not applicable
**Vapor pressure:** < 5 mm hg (26.7 °C (80.1 °F))
**Boiling point/range:** > 148.9 °C (> 300°F)
**Melting point/ range:** Not available.
**Specific gravity:** 1.1
**Vapor density:** Not available.
**Flash point:** > 93.3 °C (> 199.94 °F) Tagliabue closed cup
**Flammable/Explosive limits - lower:** Not available.
**Flammable/Explosive limits - upper:** Not available.
**Autoignition temperature:** Not available.
**Evaporation rate:** Not available.
**Solubility in water:** Slight
**Partition coefficient (n-octanol/water):** Not available.
**VOC content:** 0.82 %; 7.81 g/l
**Viscosity:** Not available.
**Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

**Stability**: Stable under normal conditions of storage and use.

**Hazardous reactions:** None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

**Hazardous decomposition products:** Phenolics. Oxides of sulfur. Oxides of carbon. Oxides of nitrogen. Irritating organic vapours.

**Incompatible materials:** Strong oxidizing agents. Strong acids. Copper. Iron. Strong reducing agents. Rust.

**Reactivity:** Not available.

**Conditions to avoid:** Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

**Potential Health Effects/Symptoms**

**Inhalation:** Inhalation of vapors or mists of the product may be irritating to the respiratory system.
**Skin contact:** Causes skin irritation. May cause allergic skin reaction.
**Eye contact:** Causes serious eye irritation.
**Ingestion:** May cause gastrointestinal tract irritation if swallowed.

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Polyglycol dimethacrylate | None | Allergen, Irritant |
| Saccharin | None | No Target Organs |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| Cumene | Oral LD50 (RAT) = 2.91 g/kg<br>Oral LD50 (RAT) = 1,400 mg/kg<br>Inhalation LC50 (RAT, 4 h) = 8000 ppm | Central nervous system, Irritant, Lung |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Polyglycol dimethacrylate | No | No | No |
| Saccharin | No | No | No |
| Cumene hydroperoxide | No | No | No |
| Cumene | No | Group 2B | No |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

**The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** Not regulated
**Hazard class or division:** None
**Identification number:** None
**Packing group:** None

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**TSCA 12 (b) Export Notification:** None above reporting de minimis

**CERCLA/SARA Section 302 EHS:** None above reporting de minimis
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health
**CERCLA/SARA Section 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
**CERCLA Reportable quantity:** Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

**California Proposition 65:** This product contains a chemical known in the State of California to cause cancer.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

## 16. OTHER INFORMATION

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Sheila Gines, Regulatory Affairs Specialist

**Issue date:** 08/21/2014

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Franklin International

# Material Safety Data Sheet

**Product name :** Titebond Carpenter's Glue

## 1 . Product and company identification

| | | |
|---|---|---|
| **CAS #** | : | mixture |
| **Address** | : | Franklin International<br>2020 Bruck Street<br>Columbus OH 43207 |
| **Contact person** | : | Franklin Technical Services |
| **Telephone** | : | (800) 877-4583 |
| **Emergency phone:** | : | Franklin Security<br>(614) 445-1300 |
| **Product code** | : | 2826 |
| **Date of revision** | : | 2/6/2009. |
| **Print date** | : | 2/19/2009. |
| **Chemtrec (24 Hour)** | : | (800) 424 - 9300 |
| **Chemtrec International** | : | (703) 527 - 3887 |
| **Chemical family** | : | Adhesive. |
| **Product use** | : | Glue |
| **Product type** | : | Polyvinyl acetate emulsion |

## 2 . Hazards identification

| | | |
|---|---|---|
| **Physical state** | : | Liquid. |
| **Odor** | : | Faint odor. |
| **OSHA/HCS status** | : | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| **Emergency overview** | : | WARNING!<br>MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE.<br>Moderately irritating to eyes. Slightly irritating to the skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. May cause target organ damage. Wash thoroughly after handling. |
| **Routes of entry** | : | Dermal contact. Eye contact. Inhalation. Ingestion. |

**Potential acute health effects**

| | | |
|---|---|---|
| **Inhalation** | : | Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.No known significant effects or critical hazards. |
| **Ingestion** | : | No known significant effects or critical hazards. |
| **Skin** | : | Slightly irritating to the skin. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. |
| **Eyes** | : | Moderately irritating to eyes. This product may irritate eyes upon contact. |

**Potential chronic health effects**

| | | |
|---|---|---|
| **Chronic effects** | : | May cause target organ damage. |
| **Carcinogenicity** | : | No known significant effects or critical hazards. |

## 2 . Hazards identification

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Target organs** : May cause damage to the following organs: skin, eyes.

**Over-exposure signs/symptoms**

**Inhalation** : No specific data.

**Ingestion** : No specific data.

**Skin** : Adverse symptoms may include the following:
irritation
redness

**Eyes** : Adverse symptoms may include the following:
irritation
watering
redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**See toxicological information (section 11)**

## 3 . Composition/information on ingredients

**There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4 . First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Small spill** : Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7 . Handling and storage

**Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

## 8 . Exposure controls/personal protection

**Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## 9 . Physical and chemical properties

**Physical state** : Liquid.

**Flash point** : Closed cup: >93.333°C (>200°F) [Setaflash.]

**Color** : Yellow.

**Odor** : Faint odor.

**pH** : 4.5

**Boiling/condensation point** : 98.889°C (210°F)

**Relative density** : 1.09

**Volatility** : 54.1% (w/w)

**VOC (less water, less exempt solvents)** : 10.7 g/l

**Dispersibility properties** : Partially dispersible in the following materials: cold water and hot water.

## 10 . Stability and reactivity

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

**Conditions to avoid** : No specific data.

**Materials to avoid** : No specific data.

**Incompatibility** : Reactive or incompatible with the following materials: acids and alkalis.

## 10 . Stability and reactivity

**Hazardous decomposition products** : Hazardous decomposition products: carbon oxides. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

**Acute toxicity**

No known significant effects or critical hazards.

**Chronic toxicity**

No known significant effects or critical hazards.

**Irritation/Corrosion**

**Conclusion/Summary**

**Skin** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

**Eyes** : This product may irritate eyes upon contact.

**Respiratory** : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

**Sensitizer**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Mutagenicity**

No known significant effects or critical hazards.

**Teratogenicity**

No known significant effects or critical hazards.

**Reproductive toxicity**

No known significant effects or critical hazards.

## 12 . Ecological information

**Environmental effects** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

No known significant effects or critical hazards.

**Biodegradability**

No known significant effects or critical hazards.

**Other adverse effects** : No known significant effects or critical hazards.

## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14 . Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| Mexico Classification | Not regulated. | - | - | - | | - |
| ADR/RID Class | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |
| IATA-DGR Class | Not regulated. | - | - | - | | - |

PG* : Packing group

## 15 . Regulatory information

**United States**

**HCS Classification** : Irritating material
Target organ effects

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances**: No products were found.
**SARA 302/304 emergency planning and notification**: No products were found.
**SARA 302/304/311/312 hazardous chemicals**: No products were found.
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: No products were found.

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**State regulations** : **Massachusetts Spill:** None of the components are listed.
**Massachusetts Substances:** None of the components are listed.

**New Jersey Hazardous Substances:** None of the components are listed.
**New Jersey Spill:** None of the components are listed.
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.

**Pennsylvania RTK Hazardous Substances:** None of the components are listed.

**International regulations**

**International lists** : **Australia inventory (AICS):** Not determined.
**China inventory (IECSC):** Not determined.
**Japan inventory (ENCS):** Not determined.
**Japan inventory (ISHL):** Not determined.
**Korea inventory (KECI):** Not determined.
**New Zealand Inventory of Chemicals (NZIoC):** Not determined.
**Philippines inventory (PICCS):** Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

## 15 . Regulatory information

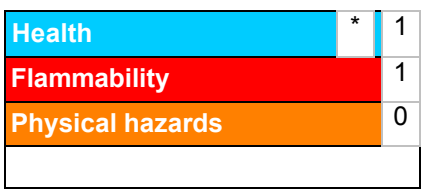
**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16 . Other information

**Label requirements** : MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE.

**Hazardous Material Information System (U.S.A.)** :




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**Date of printing** : **2/19/2009.**

**Date of issue** : 2/6/2009.

**Date of previous issue** : 12/19/2008.

**Version** : 1

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

Franklin International
MATERIAL SAFETY DATA SHEET

MSDS Name: Titebond Original Wood Glue
MSDS Number: 5063
Revision Date: 6/14/04

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
Product Name: Titebond Original Wood Glue
CAS Number: none
HMIS Hazard Rating: Health: 1 Fire: 1 Reactivity: 0

Company Identification: Franklin International
2020 Bruck Street
Columbus OH 43207

Contact: Franklin Technical Services
Telephone/Fax: (800) 877-4583 (614) 445-1493
Emergency Phone (24 Hour): Franklin Security
(614) 445-1300
Chemtrec (24 Hour): (800) 424-9300
Chemtrec International: (703) 527-3887

Product Class Aliphatic resin emulsion
Product Use: wood glue
Product Code: 2213

Division: Construction Adhesives & Sealants

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS
Hazardous Ingredients CAS Number Percent
Product contains no hazardous ingredients or they are below reportable levels.

OSHA PELs & ACGIH TLVs are listed in Section 8 where applicable.

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:
Yellow colored water-based adhesive. Slippery in the wet state.

ROUTES OF ENTRY:
Ingestion: Yes
Inhalation: Yes
Skin: Yes
Eye: Yes
INHALATION:
Vapors and/or aerosols which may be formed at elevated temperature may be irritating to eyes and respiratory tract.
No reported incidents of adverse health affects resulting from

inhalation of vapors at room temperature.
INGESTION:
No hazard expected in normal industrial use. Ingestion is not a likely route of exposure.
SKIN:
Prolonged or repeated skin contact can cause irritation.
EYE:
Substance may cause moderate eye irritation.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
None identified.
CARCINOGENICITY:
IARC: No
NTP: No
OSHA: No
REPRODUCTIVE TOXICITY:
This product has not been evaluated for reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

INHALATION:
Remove patient to fresh air,if discomfort persists seek medical attention.
INGESTION:
Call poison control center immediately. Follow their specific instructions. Do not induce vomiting.
SKIN:
Wash with soap and water. Contact a physician if irritation develops or persists.
EYE:
Hold eyelids apart and flush with plenty of water for at least 15 minutes. Seek medical attention.

SECTION 5 - FIRE-FIGHTING MEASURES
Flammability Class (OSHA) IIIB
Flash Point: Not Applicable
Explosive Range: Not Applicable

EXTINGUISHING MEDIA:
Use alcohol foam, carbon dioxide, water spray, or ABC dry chemical when fighting fires involving this product.
HAZARDOUS COMBUSTION PRODUCTS:
Oxides of carbon.
FIRE FIGHTING PROCEDURES:
Wear a NIOSH approved self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES:
Use inert absorbent to dike the spill. Keep away from drains.

CLEAN-UP:
If possible pump liquid into an approved container or spread absorbent over spill and shovel product/absorbent mixture into an approved container. If product has dried scrape up and place in an approved container.

SECTION 7 - HANDLING AND STORAGE

HANDLING:
Empty drums should be completely drained, properly bunged and promptly returned to a reconditoner, or properly disposed of.
Use only in well ventilated area.
STORAGE:
Keep from freezing.
Store at temperatures between 50 F and 90 F.
PRECAUTIONARY STATEMENT:
Keep out of the reach of children.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION
Occupational Exposure Limits

| | ACGIH TLV | ACGIH TLV-C | ACGIH STEL | OSHA STEL | OSHA PEL |
|---|---|---|---|---|---|

ENGINEERING CONTROLS:
Use local exhaust as needed to maintain occupational exposure limits.
OTHER:
Facilities storing or utilizing any chemical should be equipped with an eyewash facility and a safety shower.
RESPIRATORY PROTECTION:
Where exposure limits may be exceeded select a NIOSH approved respirator with appropriate Protection Factor and cartridge for the specific contaminents. Follow requirements for respiratory protection in OSHA 1910.134.
EYE PROTECTION:
Chemical splash goggles (ANSI Z87.1 or approved equivalent).
SKIN PROTECTION:
Where skin contact can occur, wear impervious gloves.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES
Form: Liquid
Appearance/Color: Yellow
Odor: Mild
Solubility (in water): Dispersible in water
pH Value: 4.8
Boiling Range/Point: 210.øF
Evaporation Rate: Slower than n-Butyl Acetate

% Volatile: 54.1%
Specific Gravity: 1.10
VOC: 10.7 g/l

SECTION 10 - STABILITY AND REACTIVITY
Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization will not occur

CONDITIONS TO AVOID:
None.
INCOMPATIBLITY:
Strong acids and bases.
HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of carbon may be released during combustion.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute and chronic health effects are not expected as long as good industrial hygeine and safety precautions are followed.

SECTION 12 - ECOLOGICAL INFORMATION

This formulation has not been tested for environmental effects.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
Disposal of this product must comply with all applicable federal, state and local regulations.
CONTAINER DISPOSAL:
Disposal of this container should comply with all applicable federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

| | |
|---|---|
| UN Number | none |
| UN Pack Group | N/A |
| UN Class | Nonhaz |
| ICAO/IATA Class | Nonhazardous |
| IMDG Class | Nonhazardous |
| Shipping Name | Nonhazardous |

Packaging may not be approved for shipping by air. Please contact Franklin International for further information.

SECTION 15 - REGULATORY INFORMATION

TSCA (Toxic Substances Control Act Inventory):
All components of this product are listed on the TSCA inventory except as exempted.
PENNSYLVANIA:
Non-hazardous components required to be listed at 3% or more:
polyvinyl acetate emulsion 9003-20-7; polyvinyl alcohol 25213-24-5

NEW JERSEY:
polyvinyl acetate emulsion 9003-20-7; water 7732-18-5; polyvinyl alcolhol 25213-24-5; petroleum hydrocarbon 64741-89-5; trade secret 80100233-5015p

SECTION 16 - OTHER INFORMATION

DISCLAIMER:
While the information and recommendations set forth herein are believed to be accurate as of the data hereof, Franklin International makes no warranty, express or implied, with respect thereto and disclaims all liability from reliance thereon.

**MATERIAL SAFETY DATA SHEET**
**TRIM® MIST**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name** TRIM® MIST

**Material type** Synthetic Misting Fluid

**Classification/synonym(s)** Chemical Fluid/Synthetic Fluid

**Product use** Coolant and lubricant in metal removal processes

**Manufacturer address**
MASTER CHEMICAL CORPORATION
501 West Boundary
Perrysburg, OH 43551-1200

**Emergency telephone** 419-874-7902 **Fax number** 419-874-0684

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOM. | CAS # | %RANGE |
|---|---|---|---|---|---|
| Triethanolamine | none | 5mg/m$^3$ | none | 102-71-6 | 5-15 |
| Monoethanolamine | 3ppm | 3ppm | none | 141-43-5 | 1-10 |

The exact chemical identities and percentages of the raw materials used in TRIM® MIST are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

## 3. HAZARDS IDENTIFICATION

**Emergency overview**
Light yellow liquid
No immediate hazard
Fire may produce oxides of carbon, nitrogen, and sulfur

**POTENTIAL HEALTH EFFECTS**

**Acute effects of overexposure**

| | |
|---|---|
| Eye Contact | Transient irritation |
| Skin Contact | Possible defatting, nonirritant, nonsensitizer |
| Inhalation | Nontoxic |
| Ingestion | Nontoxic |
| Skin Absorption | Nontoxic |

**Chronic effects of overexposure** None currently known

**Product/Ingredients listed as carcinogen or potential carcinogen?** **NTP Annual Report** No **IARC Monographs** No **OSHA** No

**Signs and symptoms of exposure** None

**Medical conditions generally aggravated by exposure** None known

## 4. FIRST AID MEASURES

**Emergency and first aid procedures**

| | |
|---|---|
| Eyes | Flush immediately with cool, clean water for at least 15 minutes |
| Skin | Wash with mild soap and warm water |
| Inhalation | Move to fresh air |
| Ingestion | If large quantities are ingested, contact a physician |

In every case get medical attention as required

## 5. FIRE FIGHTING MEASURES

**Flash point (test method)** $>210^{\circ}F$ ($>99^{\circ}C$) (COC)

**Flammable limits** Not determined

**Extinguishing media** As appropriate for the surrounding fire: water (flood with water), dry chemical, $CO_2$, or "alcohol" foam

**Special fire fighting procedures** None

**Unusual fire and explosion hazards** None

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled** Mop up or use dry absorbent

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storing** Avoid contact with eyes. Avoid prolonged or repeated skin contact with the concentrate. Wash thoroughly after handling. Do not swallow. Refer to container labels.

**Other precautions** This product contains amine. Do not add nitrite or other nitrosating agents to this product due to the potential for nitrosamine formation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection (Specify type)** None

**Ventilation**

| | |
|---|---|
| Local exhaust | Not normally required |
| Mechanical (General) | General room ventilation should be sufficient |
| Special | None |
| Other | None |

**Protective gloves** None

**Other protective equipment** None

| | |
|---|---|
| **Eye protection** | Safety glasses |
| **Exposure limits** | None established by ACGIH or OSHA for product as whole<br>Refer to Section 2 |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Light yellow liquid |
| **Odor** | Nearly odorless |
| **pH of concentrate (as range)** | 8.0 – 8.4 |
| **Typical operating pH (as range)** | 8.5 – 9.0 |
| **Boiling point (ASTM D86)** | 210°F (99°C) |
| **Freezing point** | -12°F (-24°C) |
| **Solubility in water** | Soluble |
| **Specific gravity ($H_2O=1$)** | 1.053 |
| **V.O.C. Content (EPA Method 24)** | 1.883 lb/gal |
| **Evaporation rate (butyl acetate=1)** | $<1$ |

## 10. STABILITY AND REACTIVITY

| | | | |
|---|---|---|---|
| **Stability** | Stable | **Conditions to avoid** | None |
| **Incompatibility (materials to avoid)** | Strong oxidizers, acids, and alkalis | | |
| **Hazardous combustion or decomposition products** | Thermal decomposition (fire) may produce carbon, nitrogen, and sulfur | | |
| **Hazardous polymerization** | Will not occur | **Conditions to avoid** | None |

## 11. TOXICOLOGICAL INFORMATION

| | | Results | |
|---|---|---|---|
| **Study** | **Test Animal** | **Concentrate** | **10% Solution** |
| Acute inhalation toxicity | Rat | --- | nontoxic<br>$LC_{50} > 219mg/l$ |
| Acute oral toxicity | Rat | nontoxic<br>$LD_{50} > 5g/kg$ | nontoxic |
| Acute dermal toxicity | Rabbit | nontoxic<br>$LD_{50} > 2g/kg$ | nontoxic |
| Primary skin irritation | Rabbit | nonirritant<br>PDI index=3.08 | nonirritant<br>PDI index=0.00 |
| Primary eye irritation | Rabbit | irritant | nonirritant |
| Repeated insult patch | Human volunteers | --- | nonirritant<br>nonsensitizer |

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal method** Must comply with local, state, and federal regulations. If pre-treatment is needed, chemical treatment or ultrafiltration may be used. Contact Master Chemical Tech Line (1-800-537-3365) for assistance.

## 14. TRANSPORT INFORMATION

**Department of Transportation** **DOT Hazard Class:** None
TRIM® MIST is not classified as a hazardous material by DOT.

## 15. REGULATORY INFORMATION

**Resource Conservation and Recovery Act** **EPA Hazardous Waste Number(s):** None
TRIM® MIST is not classified as a hazardous waste by EPA.

**Toxic Substances Control Act** All TRIM® MIST ingredients are listed on the TSCA Inventory of Chemical Substances.

**Superfund Amendments and Reauthorization Act of 1986** TRIM® MIST does not contain any Section 302/304 Extremely Hazardous Substances or Section 313 Toxic Chemicals.

## 16. OTHER INFORMATION

| | **HMIS Hazard Index** | **NFPA Rating** |
|---|---|---|
| | **Concentrate** | |
| (Health) | H = 1 | H = 1 |
| (Fire) | F = 0 | F = 0 |
| (Reactivity) | R = 0 | R = 0 |
| (Personal Protection) | PP = A (safety glasses) | Special hazards = none |
| | **Typical Working Solution** | |
| | H = 1 | H = 1 |
| | F = 0 | F = 0 |
| | R = 0 | R = 0 |
| | PP = A (safety glasses) | Special hazards = none |

**Key** 0 = minimal 1 = slight 2 = moderate 3 = serious 4 = severe
This information is intended solely for the use of individuals trained in the particular system.



The information herein is given in good faith and believed current as of the date of this MSDS. Because conditions of use are beyond our control, no guarantee, representation, or warranty expressed or implied is made. Consult Master Chemical Corporation for further information.

**Date of preparation** October 22, 2008

**MATERIAL SAFETY DATA SHEET**
**TRIM SOL®**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name** TRIM SOL®

**Material type** General-purpose Emulsion

**Classification/synonym(s)** Chemical emulsion/Soluble oil

**Product use** Coolant and lubricant in metal removal processes

**Manufacturer address**
MASTER CHEMICAL CORPORATION
501 West Boundary
Perrysburg, OH 43551-1200
419-874-7902

**Emergency telephone** 800-424-9300 **Fax number** 419-874-0684

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOM. | CAS # | %RANGE |
|---|---|---|---|---|---|
| Severely hydrotreated petroleum oil | 5mg/m$^3$ (mist) | 5mg/m$^3$ (mist) | none | 64742-52-5<br>64742-58-1<br>64742-54-0 | 55-65 |

The exact chemical identities and percentages of the raw materials used in TRIM SOL® are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

## 3. HAZARDS IDENTIFICATION

**Emergency overview**
Blue green liquid
No immediate hazard
Fire may produce oxides of carbon, nitrogen, sulfur, and acid chlorides

**POTENTIAL HEALTH EFFECTS**

**Acute effects of overexposure**

| | |
|---|---|
| Eye Contact | Transient irritation |
| Skin Contact | Possible defatting, nonirritant, nonsensitizer |
| Inhalation | Nontoxic |
| Ingestion | Nontoxic |
| Skin Absorption | Nontoxic |

**Chronic effects of overexposure** None currently known

**Product/Ingredients listed as carcinogen or potential carcinogen?** **NTP Annual Report** No **IARC Monographs** No **OSHA** No

**Signs and symptoms of exposure** None

**Medical conditions generally aggravated by exposure** None known

## 4. FIRST AID MEASURES

**Emergency and first aid procedures**

| | |
|---|---|
| Eyes | Flush immediately with cool, clean water for at least 15 minutes |
| Skin | Wash with mild soap and warm water |
| Inhalation | Move to fresh air |
| Ingestion | If large quantities are ingested, contact a physician |

In every case get medical attention as required

## 5. FIRE FIGHTING MEASURES

**Flash point (test method)** >230°F (>110°C) (COC) **Flammable limits** Not determined

**Extinguishing media** As appropriate for the surrounding fire: water (flood with water), dry chemical, $CO_2$, or "alcohol" foam

**Special fire fighting procedures** None **Unusual fire and explosion hazards** None

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled** Mop up or use dry absorbent

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storing** Avoid contact with eyes. Avoid prolonged or repeated skin contact with the concentrate. Wash thoroughly after handling. Do not swallow.

**Other precautions** Refer to container labels.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection (Specify type)** None

**Ventilation**

| | |
|---|---|
| Local exhaust | Not normally required |
| Mechanical (General) | General room ventilation should be sufficient |
| Special | None |
| Other | None |

**Protective gloves** None
**Other protective equipment** None
**Eye protection** Safety glasses
**Exposure limits** None established by ACGIH or OSHA for product as whole
Refer to Section 2

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** Blue-green liquid
**Odor** Mild, sweet

| | |
|---|---|
| **pH of concentrate** | 9.0 – 9.1 |
| **Typical operating pH (as range)** | 8.0 – 9.0 |
| **Boiling point (ASTM D86)** | >208°F (>98°C) |
| **Freezing point** | 0°F (-18°C) |
| **Solubility in water** | Soluble |
| **Specific gravity ($H_2O$=1)** | 1.002 |
| **V.O.C. Content (EPA Method 24)** | 1.945 lbs/gal |
| **Evaporation rate (butyl acetate=1)** | 0.012 |

## 10. STABILITY AND REACTIVITY

| | | | |
|---|---|---|---|
| **Stability** | Stable | **Conditions to avoid** | None |
| **Incompatibility (materials to avoid)** | Strong acids and oxidizers | | |
| **Hazardous combustion or decomposition products** | Thermal decomposition (fire) may produce oxides of carbon, nitrogen, sulfur, and acid chlorides | | |
| **Hazardous polymerization** | Will not occur | **Conditions to avoid** | None |

## 11. TOXICOLOGICAL INFORMATION

| | | Results | |
|---|---|---|---|
| **Study** | **Test Animal** | **Concentrate** | **10% Solution** |
| Acute inhalation toxicity | Rat | --- | nontoxic<br>$LC_{50}$>225mg/l |
| Acute oral toxicity | Rat | nontoxic<br>$LD_{50}$>5g/kg | nontoxic |
| Acute dermal toxicity | Rabbit | nontoxic<br>$LD_{50}$>2g/kg | nontoxic |
| Primary skin irritation | Rabbit | irritant<br>PDI index=6.75 | nonirritant<br>PDI index=0.00 |
| Primary eye irritation | Rabbit | irritant | nonirritant |
| Repeated insult patch | Human volunteers | --- | possible defatting<br>nonirritant<br>nonsensitizer |

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal method** Must comply with local, state, and federal regulations. If pre-treatment is needed, chemical treatment or ultrafiltration may be used. Contact Master Chemical Tech Line (1-800-537-3365) for assistance.

## 14. TRANSPORT INFORMATION

**Department of Transportation**

**DOT Hazard Class:** None
TRIM SOL® is not classified as a hazardous material by DOT.

## 15. REGULATORY INFORMATION

**Resource Conservation and Recovery Act**

**EPA Hazardous Waste Number(s):** None
TRIM SOL® is not classified as a hazardous waste by EPA.

**Toxic Substances Control Act**

All TRIM SOL® ingredients are listed on the TSCA Inventory of Chemical Substances.

**Superfund Amendments and Reauthorization Act of 1986**

TRIM SOL® does not contain any Section 302/304 Extremely Hazardous Substances or Section 313 Toxic Chemicals.

## 16. OTHER INFORMATION

| | **HMIS Hazard Index** | **NFPA Rating** |
|---|---|---|
| | **Concentrate** | |
| (Health) | H = 1 | H = 1 |
| (Fire) | F = 0 | F = 0 |
| (Reactivity) | R = 0 | R = 0 |
| (Personal Protection) | PP = A (safety glasses) | Special hazards = none |
| | **Typical Working Solution** | |
| | H = 1 | H = 1 |
| | F = 0 | F = 0 |
| | R = 0 | R = 0 |
| | PP = A (safety glasses) | Special hazards = none |

**Key** 0 = minimal 1 = slight 2 = moderate 3 = serious 4 = severe
This information is intended solely for the use of individuals trained in the particular system.



The information herein is given in good faith and believed current as of the date of this MSDS. Because conditions of use are beyond our control, no guarantee, representation, or warranty expressed or implied is made. Consult Master Chemical Corporation for further information.

**Date of preparation** December 21, 2009

**MATERIAL SAFETY DATA SHEET**
**TRIM® TAP HEAVY**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name** TRIM® TAP HEAVY

**Material type** Tapping Fluid

**Classification/synonym(s)** Straight oil/None

**Product use** Lubricant in metal-removal processes

**Manufacturer address** MASTER CHEMICAL CORPORATION
501 West Boundary
Perrysburg, OH 43551-1200

**Emergency telephone** 419-874-7902 **Fax number** 419-874-0684

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOM. | CAS # | %RANGE |
|---|---|---|---|---|---|

The exact chemical identities and percentages of the raw materials used in TRIM® TAP HEAVY are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

## 3. HAZARDS IDENTIFICATION

**Emergency overview** Amber liquid
No immediate hazard
Fire may produce carbon oxides, acid chlorides

**POTENTIAL HEALTH EFFECTS**

| | | |
|---|---|---|
| **Acute effects of overexposure** | Eye contact | Transient irritation |
| | Skin contact | Possible defatting, nonirritant, nonsensitizer |
| | Inhalation | Nontoxic |
| | Ingestion | Nontoxic |
| | Skin Absorption | Nontoxic |

**Chronic effects of overexposure** None currently known

**Product/Ingredients listed as carcinogen or potential carcinogen?** **NTP Annual Report** No **IARC Monographs** No **OSHA** No

**Signs and symptoms of exposure** None

**Medical conditions generally aggravated by exposure** None known

## 4. FIRST AID MEASURES

| | | |
|---|---|---|
| **Emergency and first aid procedures** | Eyes | Flush immediately with cool, clean water for at least 15 minutes |
| | Skin | Wash with mild soap and warm water |
| | Inhalation | Move to fresh air |
| | Ingestion | If large quantities are ingested, contact a physician |

In every case get medical attention as required

## 5. FIRE FIGHTING MEASURES

**Flash point (test method)** >200°F (93°C) (COC)

**Flammable limits** Not determined

**Extinguishing media** Water spray (fog) foam, dry chemical or $CO_2$

**Special fire fighting procedures** None

**Unusual fire and explosion hazards** None

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled** Mop up or use dry absorbent

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storing** Refer to container labels

**Other precautions** None

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection (Specify type)** Not normally required

| | | |
|---|---|---|
| **Ventilation** | Local exhaust | Not normally required |
| | Mechanical (General) | General room ventilation should be sufficient |
| | Special | None |
| | Other | None |

**Protective gloves** None

**Other protective equipment** None

**Eye protection** Safety glasses

**Exposure limits** None established by ACGIH or OSHA for product as whole
Refer to Section 2

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** Amber liquid

**Odor** Mild, oily

| | |
|---|---|
| **pH of concentrate** | Not applicable |
| **Boiling point (ASTM D86)** | >300°F (>149°C) |
| **Freezing point** | Not applicable |
| **Solubility in water** | Insoluble |
| **Specific gravity ($H_2O$=1)** | 1.228 |
| **V.O.C. Content (EPA Method 24)** | Not determined |
| **Evaporation rate (butyl acetate=1)** | <1 |

## 10. STABILITY AND REACTIVITY

| | | | |
|---|---|---|---|
| **Stability** | Stable | **Conditions to avoid** | None |
| **Incompatibility (materials to avoid)** | Strong acids and oxidizers | | |
| **Hazardous combustion or decomposition products** | Thermal decomposition (fire) may produce carbon oxides, acid chlorides | | |
| **Hazardous polymerization** | Will not occur | **Conditions to avoid** | None |

## 11. TOXICOLOGICAL INFORMATION

| **Study** | **Test Animal** | **Results** |
|---|---|---|
| Acute inhalation toxicity | Rat | nontoxic<br>$LC_{50}$>218mg/1 |
| Acute oral toxicity | Rat | nontoxic<br>$LD_{50}$>5g/kg |
| Acute dermal toxicity | Rabbit | nontoxic<br>$LD_{50}$>2g/kg |
| Primary skin irritation | Rabbit | nonirritant<br>PDI=0.00 |
| Primary eye irritation | Rabbit | nonirritant |
| Repeated insult patch | Human volunteers | possible defatting<br>nonirritant<br>nonsensitizer |

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal method** Must comply with local, state, and federal regulations. If pre-treatment is needed, chemical treatment or ultrafiltration may be used. Contact Master Chemical Tech Line (1-800-537-3365) for assistance.

## 14. TRANSPORT INFORMATION

**Department of Transportation** **DOT Hazard Class:** None
TRIM® TAP HEAVY is not classified as a hazardous material by DOT.

## 15. REGULATORY INFORMATION

| | |
|---|---|
| **Resource Conservation and Recovery Act** | **EPA Hazardous Waste Number(s):** None<br>TRIM® TAP HEAVY is not classified as a hazardous waste by EPA. |
| **Toxic Substances Control Act** | All TRIM® TAP HEAVY ingredients are listed on the TSCA Inventory of Chemical Substances. |
| **Superfund Amendments and Reauthorization Act of 1986** | TRIM® TAP HEAVY does not contain any Section 302/304 Extremely Hazardous Substances or Section 313 Toxic Chemicals. |

## 16. OTHER INFORMATION

| | **HMIS Hazard Index** | **NFPA Rating** |
|---|---|---|
| (Health) | H = 0 | H = 0 |
| (Fire) | F = 0 | F = 0 |
| (Reactivity) | R = 0 | R = 0 |
| (Personal Protection) | PP = A (safety glasses) | Special hazards = none |

**Key** 0 = minimal 1 = slight 2 = moderate 3 = serious 4 = severe
This information is intended solely for the use of individuals trained in the particular system.



The information herein is given in good faith and believed current as of the date of this MSDS. Because conditions of use are beyond our control, no guarantee, representation or warranty expressed or implied is made. Consult Master Chemical Corporation for further information.

**Date of preparation** April 10, 2009

**MATERIAL SAFETY DATA SHEET**
**TRIM® Whamex™**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name** TRIM® Whamex™

**Material type** Machine Tool Sump and System Cleaner

**Classification/synonym(s)** None/None

**Product use** Removal of metalworking fluids from machine tools, parts, and floors

**Manufacturer address** MASTER CHEMICAL CORPORATION
501 West Boundary
Perrysburg, OH 43551-1200

**Emergency telephone** 419-874-7902 **Fax number** 419-874-0684

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOM. | CAS # | %RANGE |
|---|---|---|---|---|---|
| Triethanolamine | none | 5 mg/m$^3$ | none | 102-71-6 | 1-10 |
| Monoethanolamine | 3 ppm | 3 ppm | none | 141-43-5 | 1-10 |

The exact chemical identities and percentages of the raw materials used in TRIM® Whamex™ are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

## 3. HAZARDS IDENTIFICATION

**Emergency overview** Yellow liquid
Fire may produce oxides of carbon and nitrogen

**POTENTIAL HEALTH EFFECTS**

| | | |
|---|---|---|
| **Acute effects of overexposure** | Eye contact | Irritant |
| | Skin contact | Irritant |
| | Inhalation | Nontoxic |
| | Ingestion | Nontoxic |
| | Skin absorption | Nontoxic |

**Chronic effects of overexposure** None currently known

**Product/Ingredients listed as carcinogen or potential carcinogen?** **NTP Annual Report** No **IARC Monographs** No **OSHA** No

**Signs and symptoms of exposure** None

**Medical conditions generally aggravated by exposure** None known

## 4. FIRST AID MEASURES

| | | |
|---|---|---|
| **Emergency and first aid procedures** | Eyes | Flush immediately with cool, clean water for at least 15 minutes |
| | Skin | Wash with mild soap and warm water |
| | Inhalation | Move to fresh air |
| | Ingestion | If large quantities are ingested, contact a physician |

In every case get medical attention as required

## 5. FIRE FIGHTING MEASURES

**Flash point (test method)** None to boiling (COC)

**Flammable limits** Not determined

**Extinguishing media** As appropriate for the surrounding fire: water (flood with water), dry chemical, $CO_2$, or "alcohol" foam

**Special fire fighting procedures** None

**Unusual fire and explosion hazards** None

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled** Mop up or use dry absorbent

## 7. HANDLING AND STORAGE

**Precautions to be taken in handling and storing** Avoid contact with eyes. Avoid prolonged or repeated skin contact with the concentrate. Wash thoroughly after handling. Do not swallow. Refer to container labels.

**Other precautions** This product contains amine. Do not add nitrite or other nitrosating agents to this product due to the potential for nitrosamine formation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory protection (Specify type)** None

| | | |
|---|---|---|
| **Ventilation** | Local exhaust | Not normally required |
| | Mechanical (General) | General room ventilation should be sufficient |
| | Special | None |
| | Other | None |

**Protective gloves** Rubber, neoprene, or vinyl

**Other protective equipment** None

**Eye protection** Safety glasses

**Exposure limits** None established by ACGIH or OSHA for product as whole
Refer to Section 2

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Yellow liquid |
| **Odor** | Mild |
| **pH of concentrate (as range)** | 10.5 - 11.0 |
| **Typical operating pH (as range)** | 10.0 – 10.6 |
| **Boiling point (ASTM D86)** | 209°F (98°C) |
| **Freezing point** | 5°F (-15°C) |
| **Solubility in water** | Soluble |
| **Specific gravity ($H_2O=1$)** | 1.080 |
| **V.O.C. Content (EPA Method)** | 1.23 lbs/gal |
| **Evaporation rate (butyl acetate=1)** | 0.034 |

## 10. STABILITY AND REACTIVITY

**Stability** Stable **Conditions to avoid** None

**Incompatibility (materials to avoid)** Strong oxidizers and acids

**Hazardous combustion or decomposition products** Thermal decomposition (fire) may produce oxides of carbon and nitrogen

**Hazardous polymerization** Will not occur **Conditions to avoid** None

## 11. TOXICOLOGICAL INFORMATION

| | | Results | |
|---|---|---|---|
| **Study** | **Test Animal** | **Concentrate** | **5% Solution** |
| Acute inhalation toxicity | Rat | --- | nontoxic $LC_{50} > 205mg/l$ |
| Acute oral toxicity | Rat | nontoxic $LD_{50} > 5000mg/kg$ | nontoxic |
| Acute dermal toxicity | Rabbit | nontoxic $LD_{50} > 2000mg/kg$ | nontoxic |
| Primary skin irritation | Rabbit | nonirritant PDI index=3.67 | nonirritant PDI index=0.13 |
| Primary eye irritation | Rabbit | irritant | nonirritant |
| Repeated insult patch | Human volunteers | --- | irritant |

## 12. ECOLOGICAL INFORMATION

No data available

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal method** Must comply with local, state, and federal regulations. If pre-treatment is needed, chemical treatment or ultrafiltration may be used. Contact Master Chemical Tech Line (1-800-537-3365) for assistance.

## 14. TRANSPORT INFORMATION

**Department of Transportation** **DOT Hazard Class:** None
TRIM® Whamex™ is not classified as a hazardous material by DOT.

## 15. REGULATORY INFORMATION

**Resource Conservation and Recovery Act** **EPA Hazardous Waste Number(s):** None
TRIM® Whamex™ is not classified as a hazardous waste by EPA.

**Toxic Substances Control Act** All TRIM® Whamex™ ingredients are listed on the TSCA Inventory of Chemical Substances.

**Superfund Amendments and Reauthorization Act of 1986** TRIM® Whamex™ does not contain any Section 302/304 Extremely Hazardous Substances or Section 313 Toxic Chemicals.

## 16. OTHER INFORMATION

| | **HMIS Hazard Index** | **NFPA Rating** |
|---|---|---|
| | **Concentrate** | |
| (Health) | H = 1 | H = 1 |
| (Fire) | F = 0 | F = 0 |
| (Reactivity) | R = 0 | R = 0 |
| (Personal Protection) | PP = B (safety glasses and gloves) | Special hazards = none |

| | **HMIS Hazard Index** | **NFPA Rating** |
|---|---|---|
| | **Typical Working Solution** | |
| | H = 1 | H = 1 |
| | F = 0 | F = 0 |
| | R = 0 | R = 0 |
| | PP = B (safety glasses and gloves) | Special hazards = none |

**Key** 0 = minimal 1 = slight 2 = moderate 3 = serious 4 = severe
This information is intended solely for the use of individuals trained in the particular system.



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**Date of preparation** December 22, 2008

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

## 1.) Identification of the Mixture and of the Company

Product identifier**: ULINE S-249 TAN MASKOUT**

Product name: **ULINE S-249 TAN MASKOUT**

Relevant identified uses of the substance: Coating
Uses advised against: Poorly ventilated areas.

| | |
|---|---|
| CAS No: | **Not Applicable (mixture)** |
| EC No: | **Not Applicable (mixture)** |
| Index No: | **Not Applicable (mixture)** |
| Distributor: | **Uline Shipping Supplies** |
| Street address/P.O. Box: | **12575 Uline Drive** |
| Country ID/Postcode/Place | **Pleasant Prairie, WI 53158** |
| Telephone number: | **1-800-295-5510** |

Emergency telephone number: **001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)**
**English Language Service**

## 2. Hazards identification

**Classifications**

Physical Hazards: Aerosol - Category 1

Health Hazards: Flam. Gas 1
Flam. Liq. 2
Flam. Liq. 3
Carc. 1B
Muta. 1B
Eye Irrit. 2
Asp. Tox. 1
STOT SE3
Press. Gas
Skin Irrit. 2
Repr. 1B

Environmental Hazards: N/AV

**Labeling**

Signal Word: Danger

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

Hazard Statements:

H220 – Extremely flammable gas.
H222 – Extremely Flammable Aerosol
H225 – Highly flammable liquid and vapour.
H226 – Flammable liquid and vapour.
H229 - Pressurized container: may burst if heated
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness.
H340 – May cause genetic defects
H350 – May cause cancer
H360 – May damage fertility or the unborn child .

Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash … thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation
P251 - Pressurized container: Do not pierce or burn, even after use

Symbols/Pictograms:

## 3. Composition / Information on Ingredients

**Composition**

| Chemical | Synonyms | CAS Number | EINECS Number | Weight Percent | Hazard Category | H-Code |
|---|---|---|---|---|---|---|

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

| | | | | | | |
|---|---|---|---|---|---|---|
| Acetone | Propanone | 67-64-1 | 200-662-2 | 15-40% | Flam. Liq. 2<br>Eye Irrit. 2<br>STOT SE 3 | H225, H319,<br>H336 |
| Hydrocarbon Propellant | LPG | 68476-86-8 | 270-705-8 | 15-40% | Press. Gas<br>Flam. Gas 1<br>Carc. 1B<br>Muta. 1B | H220<br>H350<br>H340 |
| Aliphatic Petroleum Distillates | Solvent Naphtha | 64742-89-8 | 265-192-2 | 3-7% | Carc. 1B<br>Muta. 1B<br>Asp. Tox. 1 | H350<br>H340<br>H304 |
| n-Butyl Acetate | n-Butyl Ester | 123-86-4 | 204-658-1 | 3-7% | Flam. Liq. 3<br>STOT SE 3 | H226<br>H336 |
| Methyl Ethyl Ketone | M.E.K. | 78-93-3 | 201-159-0 | 1-5% | Flam. Liq. 2<br>Eye Irrit. 2<br>STOT SE 3 | H225<br>H319<br>H336 |
| n-Methyl-2-Propanol Acetate | 2-Methoxy-1-Methylethyl Acetate | 108-65-6 | 203-603-9 | 1-5% | Flam. Liq. 3 | H226 |

**Other Product Information**

Chemical Identity: Mixture

## 4.) First Aid Measures

**General Advice:** If symptoms persist, always call a doctor.

**Inhalation First Aid:** Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

**Skin Contact First Aid:** Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

**Eye Contact First Aid:** If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.

**Ingestion First Aid:** If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Most Important Symptoms/Effects:** Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

## 5. Fire Fighting Measures

Flammable Properties: Aerosol

Auto Ignition Temperature: Not Available

Suitable extinguishing media: Carbon dioxide, dry chemical, water spray.

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

| | |
|---|---|
| Unsuitable extinguishing media: | None known |
| Special hazards arising from the substance or mixture: | None known |
| Hazardous combustion products: | Carbon dioxide, Carbon monoxide |
| Fire & Explosion Hazards: | Closed Containers may rupture due to the buildup of pressure from extreme temperatures. |
| Precautions for fire-fighters: | Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. |

## 6. Accidental Release Measures

**PERSONAL PRECAUTIONARY MEASURES:**

1) Follow personal protective equipment recommendations found in section 8.
2) Maintain adequate ventilation.

**SPILL CLEAN-UP PROCEDURES:**

1.) Evacuate unprotected personnel from the area.
2.) Remove sources of ignition if safe to do so.
3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
4.) Contain spill to prevent material from entering sewage or ground water systems.
5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

## 7. Handling and Storage

**Handling**:

Flammable Aerosol, use in a well ventilated area.
Do not use near sources of ignition.
Do not to eat, drink and smoke while working with this material.
Wash hands after use.

**Conditions for safe storage, including any incompatibilities:**

Store out of direct sunlight.
Storage Temperature: 32° to 120°F (0° to 49°C).
No known incompatibilities.

## 8. Exposure Controls / Personal Protection

**Appropriate engineering controls:**

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.
Keep away from sources of ignition.
Take precautionary measures against static discharge.

**Personal Protection:**

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

**Skin protection**
Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection:**
Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

| Hazardous Ingredient | CAS Number | ACGIH TLV (TWA) | ACGIH TLV (STEL) | OSHA PEL (TWA) | OSHA PEL (STEL) |
|---|---|---|---|---|---|
| Acetone | 67-64-1 | 500ppm | 750ppm | 1000ppm | N/AV |
| Hydrocarbon Propellant | 68476-86-8 | N/AV | N/AV | N/AV | N/AV |
| Aliphatic Petroleum Distillates | 64742-89-8 | N/AV | N/AV | N/AV | N/AV |
| n-Butyl Acetate | 123-86-4 | 150ppm | 200ppm | 150ppm | N/AV |
| Methyl Ethyl Ketone | 78-93-3 | 200ppm | 300ppm | 200ppm | N/AV |
| n-Methyl-2-Propanol Acetate | 108-65-6 | N/AV | N/AV | N/AV | N/AV |

***Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

## 9. Information on Basic Physical and Chemical Properties

| | |
|---|---|
| Appearance: Tan | Odor: Ketone Odor |
| Odor Threshold: N/AV | pH: Not Applicable (solvent Base) |
| Melting Point: N/AV | Freezing Point: N/AV |
| Initial Boiling Point: N/AV | Boiling Point Range: N/AV |
| Flash Point: <0° F (-18° C) | Evaporation Rate: Faster than n-Butyl Acetate |
| Flammability Solid/Gas: Flammable gas | Upper LEL: 0.7% Lower LEL: 12.8% |
| Vapor Pressure: N/AV | Vapor Density: Heavier Than Air |
| Relative Density: N/AV | Solubility: Negligible |
| Partition Coefficient: n-octanol/ water: N/AV | Auto-ignition Temperature: N/AV |
| Decomposition Temperature: N/AV | Viscosity: N/AV |
| Explosive Properties: N/AV | Oxidizing Properties: N/AV |

## 10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions
Chemical stability: Stable under normal conditions
Conditions to avoid: Heat and ignition sources
Incompatible materials: Strong Oxidizing Agents
Hazardous decomposition products: Will not occur

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

## 11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

| | |
|---|---|
| Acute toxicological data: | (Acetone) 5800 mg/kg (Rat-Oral)<br>(Acetone)21000 ppm/8 hr (Rat-Inha) |
| Eye irritation data: | N/AV |
| Skin irritation/sensitization/absorption data: | N/AV |
| Reproductive toxicity data: | N/AV |
| Mutagenicity data: | Muta. 1B |
| Symptoms associated with physical contact: | N/AV |
| Acute/chronic effects from short/long term exposure: | Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer. |

Known reportable carcinogens via the following agencies:

| | |
|---|---|
| NTP: | N/AV |
| IARC: | N/AV |
| OSHA: | TLV-A4 |

* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

## 12. Ecological Information

Ecotoxicity: **No Data Available**
Persistence and degradability: **No Data Available**
Bioaccumulative potential: **No Data Available**
Mobility in soil: **No Data Available**
Results of PBT and vPvB assessment: **No Data Available**
Other adverse effects: **No Data Available**

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

## 13. Disposal Considerations

**Waste Disposal:** Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.
**Product / Packaging disposal:** Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

## 14. Transportation Information

**US DOT**

| UN Number | Proper Shipping Name | Hazard Class | Packing Group | Marine Pollutant | Special Provisions |
|---|---|---|---|---|---|
| UN1950 | Aerosols | 2.1 | Not Applicable | Not Applicable | Reference 49 CFR 172.101 |

**IMDG**

| UN Number | Proper Shipping Name | Hazard Class | Packing Group | Marine Pollutant | Special Provisions |
|---|---|---|---|---|---|
| UN1950 | Aerosols | 2.1 | Not Applicable | Not Applicable | Reference IMDG code part 3 |

**IATA:**

| UN Number | Proper Shipping Name | Hazard Class | Packing Group | Marine Pollutant | Special Provisions |
|---|---|---|---|---|---|
| UN1950 | Aerosols, Flammable | 2.1 | Not Applicable | Not Applicable | Reference IATA Dangerous Goods Regulation |

## 15. Regulatory Information

**Workplace classification:**
This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.
**SARA Title 3:**
Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.
**TSCA status:** All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.
**WHMIS:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.

# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/27/2014 Version no.: 01 Supersedes: (-)

**PROP 65 (CA):** WARNING: This product may contain chemicals know to the state of California to cause cancer, birth defects or other reproductive harm.

## 16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 8/27/2014
Supersedes: (-)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

# SAFETY DATA SHEET

## INSTAPAK® DISPENSER SOLUTION

Version: 1 Preparation date: 2015-03-25

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name:** | **INSTAPAK® DISPENSER SOLUTION** |
| **Product Code:** | Not Applicable |
| **SDS#:** | M-58 |
| **Recommended Use:** | Liquid cleaning solution for use in Instapak® foam dispensing equipment |
| **Uses Advised Against:** | Uses other than those identified are not recommended |
| **Manufacturer, Importer, Supplier:** | Sealed Air Corporation (US)<br>10 Old Sherman Turnpike<br>Danbury, CT 06810<br>Phone: 203-791-3500 |
| **Emergency Telephone Number:** | Chemtrec 800-424-9300 |

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture:**

Specific Target Organ Toxicity (Single Exposure) Catergory 3

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity

**Signal Word:** **Warning**

**Hazard Statements:** May cause drowsiness or dizziness.

**Precautionary statements:** Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Call a POISON CENTER or doctor/ physician if you feel unwell. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Health hazards not otherwise classified (HHNOC) -** May cause dermatitis by defatting the skin from prolonged or repeated contact.

**Physical hazards not otherwise classified (PHNOC) -** Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Classified Ingredients: | CAS No. | Weight % |
|---|---|---|
| Tripropylene Glycol Monomethyl Ether | 25498-49-1 | > 99.0 |

Occupational exposure limits, if available, are listed in Section 8.

## 4. FIRST-AID MEASURES

**Description of necessary first aid measures:**

**Eyes:** IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

**Skin:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** IF SWALLOWED: Call a poison center/doctor/ if you feel unwell. Rinse mouth.

**Most important symptoms/effects:**

**Eyes:** No information available.

**Skin:** No information available.

**Inhalation:** No information available.

**Ingestion:** This material may be a slight health hazard if ingested in large quantities. If large quantity swallowed, give lukewarm water (pint/ 1/2 liter) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk.

**Immediate medical attention and special treatment needed:** May cause drowsiness or dizziness. Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

**Aggravated Medical Conditions:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Specific Methods:** No special methods required.

**Suitable Extinguishing Media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

**Specific Hazards:** Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Fine sprays/mists may be combustible at temperatures below normal flash point.

**Special Protective Equipment for Fire Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

**Unsuitable Extinguishing Media:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 6. ACCIDENTAL RELEASE MEASURES

**Methods and materials for containment and cleaning up:** Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Prevent entry into waterways, sewers, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

**Storage:** Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. This product will absorb water if exposed to air.

**Aerosol Level (if applicable)**: Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

| Ingredient(s) | CAS# | OSHA-PEL | ACGIH-TLV |
|---|---|---|---|
| Not applicable. | -- | -- | -- |

**Engineering Controls to Reduce Exposure:** No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment:**

| | |
|---|---|
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **Hand protection:** | Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. |
| **Skin and body protection:** | Appropriate footwear. |
| **Respiratory protection:** | Respiratory protection should not be needed under normal use and handling conditions. |
| **Hygiene measures:** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Take off contaminated clothing and wash before reuse. Ensure that eyewash stations are close to the workstation location. |

Refer to the “Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals” bulletin before handling Instapak® chemicals for additional information.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid
**Color:** Colorless
**Odor:** Ether-like odor

**Odor Threshold:** Not available
**pH:** Not available
**Melting Point/Freezing Points:** -108°F (-78°C)
**Boiling/condensation point:** 469°F (243°C)

**Flash point:** 255 °F (124 °C) Method: PMCC
**Evaporation rate:** <1

**Flammability (solid, gas):** Not available
**Lower and upper explosive limits:** Not available
**Vapor Pressure:** 0.017 hPa (0.013 mm Hg) at 68°F (20°C)
**Vapor Density (Air = 1):** ~7.1 at 59 - 90°F (15 - 32°C)
**Relative Density:** 0.965 g/cm3 at 68°F (20°C)
**Solubility in Water:** Soluble
**Partition coefficient: n- octanol/water:** log Pow: 0.31 at 68°F (20°C)
**Auto-Ignition temperature:** 531°F (277°C)
**Decomposition temperature:** Not available

**Viscosity:** 5.53 mm2/s at 77°F (25°C) (static)

## 10. STABILITY AND REACTIVITY

**Reactivity**: Will not occur.

**Stability:** Stable at room temperature.

**Possibility of Hazardous Reactions:** Not applicable.

**Hazardous Decomposition Products:** Exposure to fire or extreme heat may generate oxides of carbon and oxides of nitrogen.

**Materials to Avoid:** Strong oxidizing agents. Moisture and humidity. May react with oxygen to form peroxides. However, there is no known evidence that it has nearly the peroxide forming potential as, for example, diethyl ether, etc.

**Conditions to Avoid:** Extended contact with air or oxygen. Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Ignition may occur at temperatures below those published in the literature as auto ignition or ignition temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
Eye contact, Skin contact, Inhalation, Ingestion.

**Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:**

**Eye Contact:** May cause slight transient eye irritation.
**Skin Contact**: Non-irritating to skin.
**Inhalation:** No information available.
**Ingestion:** May cause drowsiness or dizziness. Based on acute toxicity values, not classified. Ingestion of very large amounts may cause central nerve system depression, respiratory failure, and death in cases of severe over-exposure.
**Sensitization:** No information available.

**Numerical measures of toxicity:**

| | |
|---|---|
| **$LD_{50}$ Oral:** | 3,400 mg/kg (rat) |
| **$LD_{50}$ Dermal:** | 15,400 mg/kg (rabbit) |
| **$LC_{50}$ Inhalation:** | > 30 ppm, 8 hours (rat) |

**Carcinogenicity:**

| Ingredient(s) | IARC | OSHA | NTP |
|---|---|---|---|
| Not applicable | -- | -- | -- |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Based on acute aquatic toxicity values, not classified.

**Persistence and Degradability**: 60 % rapidly degradable (after 22 days in a ready biodegradability test).
**Bioaccumulation:** Bioconcentration factor (BCF): 3.16, Method: (QSAR calculated value). This material is not expected to bioaccumulate.

**Mobility in Soil:** No information available. Low absorption to soil particulates predicted.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues/unused products:** The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

## 13. DISPOSAL CONSIDERATIONS

**Contaminated Packaging:** Do not re-use empty containers.

**RCRA Hazard Class (undiluted product):** Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**TDG:** Not regulated.

**IMDG:** Not regulated.

**IATA:** Not regulated.

**DOT (Ground) Bill of Lading Description:** Not regulated.

**IMDG (Ocean) Bill of Lading Description:** Not regulated.

## 15. REGULATORY INFORMATION

**International Inventories at CAS# Level:**
All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

**U.S. Regulations:**
**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

**RIGHT TO KNOW (RTK):**

| Ingredient(s) | CAS# | MARTK | NJRTK | PARTK | RIRTK |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

## 15. REGULATORY INFORMATION

**CERCLA/ SARA:**

| Ingredient(s) | CAS# | Weight % | CERCLA/SARA RQ (lbs) | Section 302 TPQ (lbs) | Section 313 |
|---|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- | -- |

| Ingredient(s) | CAS# | CAA HAP | CAA ODS | CWA Priority Pollutants |
|---|---|---|---|---|
| Not applicable | -- | -- | -- | -- |

**SARA 311/312 Hazard Categories:**

| | |
|---|---|
| **Immediate:** | -- |
| **Delayed:** | - |
| **Fire:** | - |
| **Reactivity:** | - |
| **Sudden Release of Pressure:** | - |

**Canadian Regulations:**
**CEPA DSL:** All components are listed or exempted.

## 16. OTHER INFORMATION

**NFPA:**

| | |
|---|---|
| **Health:** | 1 |
| **Flammability:** | 1 |
| **Instability:** | 0 |
| **Special Hazard:** | None |

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

## 16. OTHER INFORMATION

**Version Number:** 1
**Preparation date:** 2015-03-25
**SDS Code:** M-58

**Reason for revision:** Not applicable.
**Prepared by:** NAPCRA
**Additional advice:** Not applicable.

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Safety Data Sheet

SECTION 1: IDENTIFICATION

TRADE NAME: UNSATURATED POLYESTER GEL COAT IN MONOMER
CAS NUMBER: MIXTURE
**PRODUCT CODE: LHM-2900**
PRODUCT DESCRIPTION: HydroShield LITE WHITE GEL COAT

HK RESEARCH CORPORATION
PO Box 1809
908 Lenoir Road
Hickory, NC 28603
(828) 328-1721

EMERGENCY TELEPHONE
828-328-1721 (M-F, 9:00am-5:00pm)
CHEMTREC 800-424-9300 (365 days, 24 hours)

Section 2: Hazard(s): Identification

Classification of the substance or mixture
GHS Classification and labeling according to JISZ 7252-2009 and
JIS Z 7253-2012 (GHS 2011)

Classification

Flammable liquids, Category 3
Acute toxicity, Category 4, Inhalation
Skin irritation, Category 2
Eye irritation, Category 2A
Germ cell mutagenicity, Category 2
Carcinogenicity, Category 2
Reproductive toxicity, Category 1B
Specific target organ systemic toxicity - single exposure, Category 1, Central nervous system
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory tract irritation
Specific target organ systemic toxicity - repeated exposure, Category 1, Blood system, Liver, Nervous system, respiratory tract/organ
Aspiration hazard, Category 1

WORD SIGNAL: DANGER

Hazard Statements

H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H341: Suspected of causing genetic defects.
H351: Suspected of causing cancer.
H360: May damage fertility or the unborn child.
H370: Causes damage to organs (Central nervous system).
H372: Causes damage to organs (Blood system, Liver, Nervous system, respiratory tract/organ) through prolonged or repeated exposure.
H401: Toxic to aquatic life.

| | |
|---|---|
| **Precautionary Statements** | **Prevention:**<br>**Obtain special instructions before use.**<br>**Do not handle until all safety precautions have been read and understood.**<br>**P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**<br>**P233: Keep container tightly closed.**<br>**Ground/bond container and receiving equipment.**<br>**Use explosion-proof electrical/ ventilating/ lighting/ equipment.**<br>**Use only non-sparking tools.**<br>**Take precautionary measures against static discharge.**<br>**P260: Do not breathe dust/fume/gas/mist/vapor/spray.**<br>**P264: Wash skin thoroughly after handling.**<br>**Do not eat, drink or smoke when using this product.**<br>**Use only outdoors or in a well-ventilated area.**<br>**P273: Avoid release to the environment.**<br>**P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.**<br><br>**Response:**<br>**P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.**<br>**P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**<br>**P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.**<br>**P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**<br>**P308 + P311: IF exposed or concerned: Call a POISON CENTER or doctor/ physician.**<br>**P308 + P313: IF exposed or concerned: Get medical advice/attention.**<br>**P321: Specific treatment (see supplemental first aid instructions on this label).**<br>**P331: Do NOT induce vomiting.**<br>**P332 + P313: If skin irritation occurs: Get medical advice/attention.**<br>**P337 + P313: If eye irritation persists: Get medical advice/attention.**<br>**P362 + P364: Take off contaminated clothing and wash it before reuse.**<br>**P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.**<br><br>**Storage:**<br>**P403 + P233: Store in a well-ventilated place. Keep container tightly closed.**<br>**P403 + P235: Store in a well-ventilated place. Keep cool.**<br>**P405: Store locked up.**<br><br>**Disposal:**<br>**P501: Dispose of contents/ container to an approved waste disposal plant.** |

**Section 3: Composition/Information on ingredients**

1.
CAS# MIXTURE
UNSATURATED POLYESTER RESIN 25 - 35%
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 ppm
OSHA PEL/TWA: 100 ppm
LD50, ORAL: NOT AVAILABLE
LD50, DERMAL: NOT AVAILABLE
LC50, INHALATION: NOT AVAILABLE

2.
CAS# 000100-42-5
STYRENE MONOMER [1] 30%
VAPOR PRESSURE: 4.3MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 ppm TWA 8 hours
OSHA PEL/TWA: 100 ppm TWA 8 hours
LD50, ORAL: 5000 mg/kg RAT
LD50, DERMAL: 5000+mg/kg RABBIT
LC50, INHALATION: 11800mg/kg RAT 4 HOURS

3.
CAS# 013463-67-7
TITANIUM DIOXIDE 12 - 22%
EXPOSURE LIMIT:
ACGIH TLV/TWA: 10 $mg/m^3$ ACGIH 2011
OSHA PEL/TWA: 10 $mg/m^3$
LD50, ORAL: 5000 mg/kg RAT
LD50, DERMAL: 5000 mg/kg RABBIT
LC50, INHALATION: >6.82 mg/l RAT, 4 HOURS
AVOID BREATHING DUST

4.
CAS# 014807-96-6
MAGNESIUM SILICATE 8 - 18%
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 mg/m$^3$ <1% CRYSTALIN SILICA
OSHA PEL/TWA: 5 mg/m$^3$ <1% CRYSTALIN SILICA
LD50, ORAL: DUST THROAT IRRITANT
LD50, DERMAL: DUST SKIN IRRITANT
LC50, INHALATION: DUST TALCOSIS POSSIBLE
AVOID BREATHING DUST

5.
CAS# 000080-62-6
METHYL METHACRYLATE [1] 3%
EXPOSURE LIMIT:
ACGIH TLV/TWA: 50 ppm
OSHA PEL/TWA: 100 ppm TWA 8 HOURS
LD50, ORAL: 7900 mg/kg RAT
LD50, DERMAL: 5000 mg/kg RABBIT
LC50, INHALATION: 29.8 mg/l RAT, 4 HOURS
AVOID BREATHING DUST

6.
CAS# 015625-89-5
ACRYLIC POLYMER 1 - 8%
EXPOSURE LIMIT:
ACGIH TLV/TWA: N/A
OSHA PEL/TWA: N/A
LD50, ORAL: 5000 mg/kg RAT
LD50, DERMAL: 5000 mg/kg RAT
LC50, INHALATION: 7 HOURS RAT - NO DEATHS
AVOID BREATHING DUST

7.
CAS# 112945-52-5
SILICON DIOXIDE 1 - 6%
EXPOSURE LIMIT:
ACGIH TLV/TWA: 10 mg/m$^3$
OSHA PEL/TWA: 6 mg/m$^3$ RESPIRABLE
LD50, ORAL: 5000 mg/kg RAT
LD50, DERMAL: 2000 mg/kg RABBIT
LC50, INHALATION: N/A N/A
NOT HAZARDOUS

REMAINING COMPONENTS NOT DETERMINED TO BE HAZARDOUS
AND/OR HAZARDOUS COMPONENTS PRESENT AT LESS THAN
1.0% (0.1% FOR CARCINOGENS)
[1] NOTE: This chemical subject to reporting requirements under
SARA Title III, Section 313

**Section 4: First-aid measures**

**ROUTE OF EXPOSURE**
**INGESTION:**
**Moderately Toxic. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. Exposure may cause symptoms similar to those listed under "Inhalation" (see Inhalation section).**

**SKIN:**
**Moderately Irritating. Repeated or prolonged skin contact may cause reddening, inflammation or blistering. May cause allergic reactions in some individuals. Contact with heated material may cause thermal burns. Exposure may cause symptoms similar to those listed under "Inhalation" (see Inhalation section).**

**EYE:**
**Moderately Irritating. Direct contact may cause temporary corneal lesions. Contact with heated material may cause thermal burns.**

**INHALATION:**
**SLIGHTLY TOXIC. May cause respiratory tract irritation. May cause harmful central nervous system effects. Effects may include drowsiness, impaired balance, nausea, vomiting, loss of appetite and general weakness-- "Styrene Sickness". May cause blood changes and liver damage. The disagreeable odor and irritation of this material make inhalation of acutely toxic concentrations unlikely.**

**SPECIAL TOXIC EFFECTS:**
**Carcinogenic determinations: The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B (possibly carcinogenic to humans). This classification is not based on any significant new evidence that styrene may be carcinogenic, but rather on a revised definition for group 2B and consideration of new data on styrene oxide.**
**A number of lifetime animal studies with styrene including those conducted in the NCI bioassay program have not shown styrene to be carcinogenic.**

**Pre-existing medical conditions which may be aggravated by exposure include, but are not limited to, chronic respiratory and skin disease and central nervous system disorders.**

********* EMERGENCY AND FIRST AID ************

**INGESTION:**
**DO NOT INDUCE VOMITING BECAUSE OF DANGER OF ASPIRATING LIQUID INTO LUNGS BURNING (IRRITATING) ESOPHAGUS AGAIN.**
**If spontaneous vomiting monitor for breathing difficulty. Keep affected person warm and at rest. Get immediate medical attention.**

**SKIN CONTACT:**
**Wash area of contact thoroughly with soap and water. Remove contaminated clothing immediately. Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Get medical attention if irritation persists.**

**EYE CONTACT:**
**Flush immediately with large amounts of water for 20-30 minutes. Eye lids should be held away from the eyeball to insure thorough rinsing. Get medical attention if irritation persists.**

**INHALATION:**
**Remove affected person from source of exposure. If breathing is difficult, give oxygen. Keep affected person warm and at rest. Get immediate medical attention.**

**Section 5: Fire-fighting measures**

**FLASH POINT oC (oF): 30-35(87-95)**
**FLAMMABILITY CLASSIFICATION: CLASS 1C**
**AUTOIGNITION TEMPERATURE, oC (oF): 490 (914)**
**FLAMMABILITY LIMITS IN AIR (% by volume): LOWER: 1.1 UPPER: 6.1**

**BASIC FIREFIGHTING PROCEDURES:**
**Use dry chemical, all purpose or polar AFFF foam or water spray to extinguish fire. Water or foam may cause frothing, with further application leading to boilover. Foam may have limited effectiveness on three dimensional fires. Use water spray to cool fire-exposed containers, structures and to protect personnel. Use water to flush spills away from source of ignition. Do not flush down public sewers.**

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**
**Fire may produce poisonous or irritating gas, fumes or vapor. Excessive heat may trigger polymerization of confined material. Containers may explode in heat of fire. Styrene vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks, resulting in stoppage of vents. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus, with full face mask and full protective equipment.**

**Section 6. Accidental release measures**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**
**No flares, smoking, flames, sparks & other sources of ignition in hazardous area. Stop leak if you can do it without risk. Use water spray to reduce vapors.**

**SMALL SPILLS--Take up with sand or other noncombustible absorbent material or other sorbent known to be compatible, then flush area with water.**

**LARGE SPILLS--Dike far ahead of spill for later disposal.**

**WASTE DISPOSAL METHOD:**
**Incinerate in an approved incinerator or dispose of in a chemical dump in accordance with local, state and federal regulations.**

**Section 7. Handling and storage**

**Store in tightly closed containers in cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.**

**"Empty" containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.**

**Section 8. Exposure controls/personal protection**

**EYE PROTECTION:**
**Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Have eye baths readily available where eye contact can occur.**

**SKIN PROTECTION:**
**Wear impervious gloves and protective clothing to prevent skin contact. Suggested protective materials are: Polyvinyl alcohol, Polyethylene and Viton. Provide safety showers at any location where skin contact can occur.**

**RESPIRATORY PROTECTION:**
**Use NIOSH or MSHA approved equipment when airborne exposure limits are exceeded. NIOSH/MSHA approved breathing equipment may be required for non-routine and emergency use. Ventilation may be used to control or reduce airborne concentrations.**

**Section 9. Physical and chemical properties**

**BOILING POINT,oC (oF): >145 (293)**
**VAPOR PRESSURE, mm Hg: <5 @ 20oC (68oF)**
**VAPOR DENSITY (AIR=1): 3.6 (styrene)**
**SOLUBILITY IN WATER: NEGLIGIBLE**
**SPECIFIC GRAVITY (H2O=1): 1.32 +/- 5% @ 25oC**
**PERCENT VOLATILE (VOC): 33**
**EVAPORATION RATE (ETHER=1):<1**
**APPEARANCE/ODOR: WHITE LIQUID WITH PUNGENT ODOR**
**FLASH POINT oC (oF): 30-35(87-95)**
**FLAMMABILITY CLASSIFICATION: CLASS 1C**
**AUTOIGNITION TEMPERATURE, oC (oF): 490 (914)**
**FLAMMABILITY LIMITS IN AIR (% by volume): LOWER: 1.1 UPPER: 6.1**

**BASIC FIREFIGHTING PROCEDURES:**
**Use dry chemical, all purpose or polar AFFF foam or water spray to extinguish fire. Water or foam may cause frothing, with further application leading to boilover. Foam may have limited effectiveness on three dimensional fires. Use water spray to cool fire-exposed containers, structures and to protect personnel. Use water to flush spills away from source of ignition. Do not flush down public sewers.**

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**
**Fire may produce poisonous or irritating gas, fumes or vapor. Excessive heat may trigger polymerization of confined material. Containers may explode in heat of fire. Styrene vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks, resulting in stoppage of vents. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus, with full face mask and full protective equipment.**

**Section 10. Stability and reactivity**

**STABILITY/INCOMPATIBILITY:**
**Stable under normal conditions of use. Avoid contact with strong oxidizers.**

**HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:**
**Thermal decomposition products may be hazardous. Reacts vigorously with oxidizing agents. "Empty" containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.**

**11. Toxicological information**

**INGESTION:**
**Moderately Toxic. May cause gastrointestinal disturbances. Symptoms may Include irritation, nausea, vomiting and diarrhea. Exposure may cause symptoms similar to those listed under "Inhalation" (see Inhalation section).**

**SKIN:**
**Moderately Irritating. Repeated or prolonged skin contact may cause reddening, inflammation or blistering. May cause allergic reactions in some individuals. Contact with heated material may cause thermal burns. Exposure may cause symptoms similar to those listed under "Inhalation" (see Inhalation section).**

**EYE:**
**Moderately Irritating. Direct contact may cause temporary corneal lesions. Contact with heated material may cause thermal burns.**

**INHALATION:**
**SLIGHTLY TOXIC. May cause respiratory tract irritation. May cause harmful central nervous system effects. Effects may include drowsiness, impaired balance, nausea, vomiting, loss of appetite and general weakness. "Styrene Sickness". May cause blood changes and liver damage. The disagreeable odor and irritation of this material make inhalation of acutely toxic concentrations unlikely.**

**SPECIAL TOXIC EFFECTS:**
**Carcinogenic determinations: The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B (possibly carcinogenic to humans). This classification is not based on any significant new evidence that styrene may be carcinogenic, but rather on a revised definition for group 2B and consideration of new data on styrene oxide. A number of lifetime animal studies with styrene including those conducted in the NCI bioassay program have not shown styrene to be carcinogenic.**

**Pre-existing medical conditions which may be aggravated by exposure include, but are not limited to, chronic respiratory and skin disease and central nervous system disorders.**

**Section 12. Ecological information**

**Ecotoxicity**

**Styrene**

**Bioconcentration factor (BCF) 13.5 - 64**
**Log Pow 3.16**
**Toxicity to Aquatic Invertebrates LC50 (48h) 23 mg/l (Daphnia magna)**
**Freshwater Fish LC50 (96h) 32 mg/l (pimephales promelas**

**Section 13. Disposal considerations**

**Waste Disposal Method: Hazardous waste. Can be incinerated, when in compliance with local regulations.**

**Contaminated Packaging: Empty containers should be taken for local recycling, recovery or waste disposal.**

**US EPA Waste Number: D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.**

**Section 14. Transport information**

**DOT**
**UN-No UN1866**
**Proper Shipping Name: RESIN SOLUTION**
**Hazard Class CLASS 3**
**Packing Group PGIII**
**NAERG: 127**

**TDG**
**UN-No UN1866**
**Proper Shipping Name RESIN SOLUTION**
**Hazard Class CLASS 3**
**Packing Group PGIII**
**NAERG: 127**

**IATA**
**UN-No UN1866**
**Proper Shipping Name RESIN SOLUTION**
**Hazard Class CLASS 3**
**Packing Group PGIII**
**NAERG: 127**

**IMDG/IMO**
**UN-No UN1866**
**Proper Shipping Name RESIN SOLUTION**
**Hazard Class CLASS 3**
**Packing Group PG III**
**EmS No. F-E, S-E**

**Section 15. Regulatory information**

**Clean Air Act -Hazardous Air Pollutants (HAP): The following chemical(s) are listed as hazardous air pollutants (HAP) under the U.S. Clean Air Act Section 112(b)(1), (40 CFR 61): Styrene (CAS# 100-42-5) See Section 2 of this SDS for amount.**

**Clean Water Act - Priority Pollutants (PP): Styrene (100-42-5) is listed under Section 311 as a Hazardous Substance.**

**Occupational Safety and Health Act (OSHA): This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.**

**SARA Title III: Section 304 - CERCLA: Styrene (CAS# 100-42-5):**
**Reportable Quantity = 1,000 lb.**

**SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):**
**This is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, FLAMMABILITY HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312)**

**SARA Title III: Section 313 Toxic Chemical List (TCL): Styrene (100-42-5)**

**TSCA Section 8(b) - Inventory Status: All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.**

**TSCA Section 12(b) - Export Notification: This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA)**

**Section 12(b) Export Notification requirements.**

**Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).**

**Canadian WHMIS: This material is classified by the Canadian Workplace Hazardous Material Information System as: B2 (flammable liquid) D2A (materials causing other toxic effects, very toxic material)**
**D2B (materials causing other toxic effects, toxic material)**
**F (dangerously reactive material)**

**California Proposition 65: WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Styrene Oxide**

**Additional Canadian Regulatory Information: The following chemicals are listed on the WHMIS Ingredient Disclosure List:**
**Styrene Monomer (CAS# 100-42-5)**

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**Section 16. Other information**

**Preparation Date: AUGUST 11, 2015**

**Disclaimer: This information is provided in good faith and is correct to the best of HK Research Corporation's knowledge as of the date hereof and is designed to assist our customers; however, HK Research Corporation makes no representation as to its completeness or accuracy. Our products are intended for sale to industrial and commercial customers. We require customers to inspect and test our products before use and to satisfy themselves as to suitability for their specific applications. Any use which HK Research Corporation's customers or third parties make of this information, or any reliance on, or decisions made based upon it, are the responsibility of such customer or third party. HK Research Corporation disclaims responsibility for damages, or liability, of any kind resulting from the use of this information. THERE ARE NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THIS INFORMATION OR TO THE PRODUCT IT DESCRIBES. IN NO EVENT SHALL HK RESEARCH CORPORATION BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.**

MATERIAL SAFETY DATA SHEET

VALCOOL® VNT® 800

METALWORKING FLUID CONCENTRATE

MSDS: VCO800
FS: 10-Mar-98 :9605: 1664
DATE EFFECTIVE: 10/28/2000

PART# 15-00-533

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer:

Valenite Incorporated

31700 Research Park Drive

Madison Heights, MI 48071
Emergency Telephone Number: 1-800-424-9300 (CHEMTREC)

Information Telephone Number: 1-800-488-9073

Generic Name: Water Soluble Metalworking Fluid Concentrate

Product Name(s) & Code(s): VNT 800 UNDYED 341; VNT 800 BLUE 342;

## 2. EMERGENCY INFORMATION

Product is alkaline. Product is a primary eye irritant. Product may be a primary skin irritant. Highway spills could result in slippery conditions. No other significant health effects are associated with this material.

## 3. POTENTIAL HEALTH EFFECTS OF DIRECT EXPOSURE

Product Concentrate
Product at Use Dilution

Inhalation
Not Applicable.
Extended Exposure to mists may cause upper respiratory irritation.

Eye Contact
Product is a primary eye irritant.
Will cause stinging sensation in the eye.

Skin Contact
Product may be a primary skin irritant.
Not irritating to the skin when used as directed and good personal hygiene is practiced.

SDS Number: 00010405001 Revision Date: 6/19/2015

# Safety Data Sheet

**24 Hour Emergency Phone Numbers**
**Medical/Poison Control:**
**In U.S.: Call 1-800-222-1222**

**Outside U.S.: Call your local poison control center**

**Transportation/National Response Center:**

**1-800-535-5053**
**1-352-323-3500**

NOTE: The National ResponseCenter emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

## 1. Identification

This Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad pueden obtenerse en Espanol si lo riquiere.

| | | | |
|---|---|---|---|
| **Product Name:** | Vinyl Spackling | **Revision Date:** | 6/19/2015 |
| **Product UPC Number:** | 12130, 12132, 12133,12008 | **Supercedes Date:** | New SDS |
| **Product Use/Class:** | Spackling Compound | **SDS No:** | 00010405001 |
| **Manufacturer:** | DAP Products Inc.<br>2400 Boston Street Suite 200<br>Baltimore, MD 21224-4723<br>888-327-8477 (non - emergency matters) | | |
| **Preparer:** | Regulatory Department | | |

## 2. Hazards Identification

**EMERGENCY OVERVIEW:** Product dust may be irritating to eyes, skin and respiratory system. Removal of this product after use or by dry sanding will generate dust and exposure to this dust may be irritating to the eyes, ears, nose and mouth. May cause irritation to the respiratory tract.

**GHS Classification**
Acute Tox. 4 Inhalation, Carc. 1A, Eye Irrit. 2, Skin Irrit. 2

**Symbol(s) of Product**

**Signal Word**
Danger

**GHS HAZARD STATEMENTS**

| | | |
|---|---|---|
| Skin Irritation, category 2 | H315 | Causes skin irritation. |

| | | |
|---|---|---|
| Eye Irritation, category 2 | H319 | Causes serious eye irritation. |
| Acute Toxicity, Inhalation, category 4 | H332 | Harmful if inhaled. |
| Carcinogenicity, category 1A | H350 | May cause cancer. Classified as carcinogenic Category 1 on the basis of epidemiological and/or animal data. Mixtures are classified as carcinogenic when at least 1 ingredient has been classified as carcinogenic and is present at 0.1% or above Routes of exposure are dependant on ingredient form. |

## 3. Composition/Information on Ingredients

| Chemical Name | CAS-No. | Wt. % | GHS Symbols | GHS Statements |
|---|---|---|---|---|
| Limestone | 1317-65-3 | 50-75 | GHS03 | H270 |
| Quartz | 14808-60-7 | 0.1-1.0 | GHS03-GHS07 | H270-302 |

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

## 4. First-aid Measures

**FIRST AID - INHALATION:** If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

**FIRST AID - SKIN CONTACT:** Wash skin with soap and water for 15 minutes. Get medical aid if symptoms persist.

**FIRST AID - EYE CONTACT:** In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

**FIRST AID - INGESTION:** If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

## 5. Fire-fighting Measures

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** 465 <undefined>

**SPECIAL FIREFIGHTING PROCEDURES:** Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

**EXTINGUISHING MEDIA:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

## 6. Accidental Release Measures

**ENVIRONMENTAL MEASURES:** No Information

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

## 7. Handling and Storage

**HANDLING:** KEEP OUT OF REACH OF CHILDREN!DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Do not breathe dust. Removal of this product after use will result in the generation of Dust. If dry-sanded, exposure to dust may result in the build-up of material in eyes, ears, nose, and mouth which may cause irritation. While dry sanding, use of a NIOSH-approved dust mask is recommended. Wash thoroughly after handling.

**STORAGE:** Avoid excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers. Keep containers tightly closed.

## 8. Exposure Controls/Personal Protection

**Ingredients with Occupational Exposure Limits**

| Chemical Name | ACGIH TLV-TWA | ACGIH-TLV STEL | OSHA PEL-TWA | OSHA PEL-CEILING |
|---|---|---|---|---|
| Limestone | N.E. | N.E. | 15 mg/m3 TWA total dust, 5 mg/m3 TWA respirable fraction | N.E. |
| Quartz | 0.025 mg/m3 TWA respirable fraction | N.E. | N.E. | N.E. |

**Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established**

### Personal Protection

**RESPIRATORY PROTECTION:** When concentrations exceed the exposure limits specified, use of a NIOSH-approved dust, mist and fume respirator is recommended. Where the protection factor of the respirator may be exceeded, use of a full facepiece, supplied air, or Self Contained Breathing Apparatus (SCBA) may be necessary. If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. Use an approved NIOSH/OSHA respirator if dry sanded. National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m3) as determined by a full shift sample up to 10-hour work shift. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**SKIN PROTECTION:** Wear protective gloves.

**EYE PROTECTION:** Safety glasses with side-shields.

**OTHER PROTECTIVE EQUIPMENT:** Not required under normal use.

**HYGIENIC PRACTICES:** Remove and wash contaminated clothing before re-use.

## 9. Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Appearance:** | White to Off-White | **Physical State:** | Paste |
| **Odor:** | Slight | **Odor Threshold:** | Not Established |
| **Density, g/cm3:** | 1.86 - 1.88 | **pH:** | Between 7.0 and 12.0 |
| **Freeze Point, °C:** | Not Established | **Viscosity (mPa.s):** | Not Established |
| **Solubility in Water:** | Not Established | **Partition Coeff., n-octanol/water:** | Not Established |
| **Decomposition Temperature, °C:** | Not Established | **Explosive Limits, %:** | N.I. - N.I. |
| **Boiling Range, °C:** | N.I. - N.I. | **Auto-Ignition Temperature, °C** | Not Established |
| **Minimum Flash Point, °C:** | 93.3 | **Vapor Pressure, mmHg:** | No Information |
| **Evaporation Rate:** | Slower Than n-Butyl Acetate | **Flash Method:** | Seta Closed Cup |
| **Vapor Density:** | Heavier Than Air | **Flammability:** | No Information |
| **Combustibility:** | Does not support combustion | | |

(See "Other information" Section for abbreviation legend)
(If product is an aerosol, the flash point stated above is that of the propellant.)

## 10. Stability and Reactivity

**STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Do not breathe dust. Avoid dust formation in confined areas. Excessive heat and freezing.

**INCOMPATIBILITY:** Incompatible with strong bases and oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Normal decomposition products, i.e., COx, NOx.

## 11. Toxicological Information

**EFFECT OF OVEREXPOSURE - INHALATION:** Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes). Prolonged, repeated, or high exposures may cause irritation to the respiratory tract (nose, mouth, mucous membranes). Dust from dry sanding may cause eye, skin, nose, throat and respiratory tract irritation.

**EFFECT OF OVEREXPOSURE - SKIN CONTACT:** Under normal use conditions, this product is not expected to cause adverse health effects. Prolonged or repeated contact with skin may cause mild irritation. May cause skin irritation in susceptible persons.

**EFFECT OF OVEREXPOSURE - EYE CONTACT:** Under normal use conditions, this product is not expected to cause adverse health effects. Direct eye contact may cause irritation. May cause eye irritation.

**EFFECT OF OVEREXPOSURE - INGESTION:** Under normal use conditions, this product is not expected to cause adverse health effects. Single dose oral toxicity is very low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may cause injury. Ingestion may result in obstruction when material hardens.

**CARCINOGENICITY:** No Information

**EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS:** Contains Crystalline Silica which has been determined to be carcinogenic to humans (1) by IARC when in respirable form. Risk of cancer depends upon duration and level of inhalation exposure to dust from sanding the dried paint or spray mist. The International Agency for Research on Cancer (IARC) has determined that crystalline silica in the form of quartz or cristobalite that is inhaled from occupational sources is carcinogenic to humans (Group 1- carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. The National Toxicology Program (NTP) classifies respirable crystalline silica as "known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (Group A2). Breathing dust containing respirable crystalline silica may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects: Excessive inhalation of respirable dust can cause pneumoconiosis, a respiratory disease, which can result in delayed, progressive, disabling and sometimes fatal lung injury. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Smoking exacerbates this disease. Individuals with pneumoconiosis are predisposed to develop tuberculosis. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease. Prolonged or repeated inhalation of dust may cause lung damage.

**PRIMARY ROUTE(S) OF ENTRY:** Eye Contact, Ingestion, Inhalation, Skin Contact

**Acute Toxicity Values**

**The acute effects of this product have not been tested. Data on individual components are tabulated below**

| CAS-No. | Chemical Name | Oral LD50 | Dermal LD50 | Vapor LC50 |
|---|---|---|---|---|
| 1317-65-3 | Limestone | 6450 mg/kg Rat | >2000 mg/kg | >20 mg/L |
| 14808-60-7 | Quartz | 500 mg/kg Rat | >2000 mg/kg | >20 mg/L |

N.I. = No Information

## 12. Ecological Information

**ECOLOGICAL INFORMATION:** Ecological injuries are not known or expected under normal use.

## 13. Disposal Information

**DISPOSAL INFORMATION:** This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

## 14. Transport Information

**SPECIAL TRANSPORT PRECAUTIONS:** No Information

| | |
|---|---|
| **DOT UN/NA Number:** | N.A. |
| **DOT Proper Shipping Name:** | Not Regulated. |
| **DOT Technical Name:** | N.A. |
| **DOT Hazard Class:** | N.A. |
| **Hazard SubClass:** | N.A. |
| **Packing Group:** | N.A. |

## 15. Regulatory Information

### U.S. Federal Regulations:

**CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

**SARA SECTION 313:**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

**TOXIC SUBSTANCES CONTROL ACT:**

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

**CALIFORNIA PROPOSITION 65 CARCINOGENS AND REPORODUCTIVE TOXINS**

**CALIFORNIA PROPOSITION 65:** No Information

### International Regulations: As follows -

**CANADIAN WHMIS:**

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**WHMIS Class** Consumer Commodity

## 16. Other Information

| | | | |
|---|---|---|---|
| **Revision Date:** | 6/19/2015 | **Supersedes Date:** | New MSDS |
| **Reason for revision:** | HazCom2012/GHS Conversion | | |
| **Datasheet produced by:** | Regulatory Department | | |

**HMIS Ratings:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Health:** | 1 | **Flammability:** | 1 | **Reactivity:** | 0 | **Personal Protection:** | X |

**VOC Less Water Less Exempt Solvent, g/L** 40.6

**VOC Material, g/L:** 23

**VOC as Defined by California Consumer Product Regulation, Wt/Wt%:** 0.3

**Text for GHS Hazard Statements shown in Section 3 describing each ingredient:**

| | |
|---|---|
| H270 | May cause or intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |

**Icons for GHS Pictograms shown in Section 3 describing each ingredient:**

**GHS03**

**GHS07**

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since thisdocument is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

# MATERIAL SAFETY DATA SHEET

Sheffield Plastics Inc.
A Bayer MaterialScience Company

**Sheffield Plastics Inc.**
**119 Salisbury Road**
**Sheffield, MA 01257**
**USA**

**TRANSPORTATION EMERGENCY**
CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

**NON-TRANSPORTATION**
Bayer Emergency Phone: (412)-923-1800
Bayer Information Phone: (800) 662-2927

## 1. Product and Company Identification

**Product Name:** Vivak® Copolyester Sheet
**Material Number:** SH004486
**Chemical Family:** Thermoplastic Polymer Sheet
**Chemical Name:** Copolyester

## 2. Hazards Identification

**Emergency Overview**

**CAUTION! Color:** tint **Form:** solid sheets **Odor:** slight.
Melted product is flammable and produces intense heat and dense smoke during burning. Irritating gases/fumes may be given off during burning or thermal decomposition. May cause mechanical irritation (abrasion). Contact with hot material will cause thermal burns.

**Potential Health Effects**

**Primary Routes of Entry:** Inhalation, Skin Contact, Eye Contact

**Medical Conditions Aggravated by Exposure:** Respiratory disorders

**HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE**

**Skin**
**Acute Skin**
**For Product: Vivak® Copolyester Sheet**
Contact with heated material can cause thermal burns.

**Eye**
**Acute Eye**
**For Product: Vivak® Copolyester Sheet**
May cause mechanical irritation.

**General Effects of Exposure**

**Acute Effects of Exposure**
**For Product: Vivak® Copolyester Sheet**
Gases and fumes evolved during the thermal processing or decomposition of this material may irritate the eyes, skin or respiratory tract.

**Chronic Effects of Exposure**
**For Product: Vivak® Copolyester Sheet**
Not expected to cause any adverse chronic health effects.

**Carcinogenicity:**
No Carcinogenic substances as defined by IARC, NTP and/or OSHA

## 3. Composition/Information on Ingredients

**Hazardous Components**
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

## 4. First Aid Measures

**Eye Contact**
In case of contact, flush eyes with plenty of lukewarm water.

**Skin Contact**
In case of skin contact, wash affected areas with soap and water. Get medical attention if thermal burn occurs.

**Inhalation**
If inhaled, remove to fresh air.

**Ingestion**
Get medical attention.

## 5. Fire-Fighting Measures

**Suitable Extinguishing Media:** water, foam, dry chemical, carbon dioxide (CO2)

**Special Fire Fighting Procedures**
Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

**Unusual Fire/Explosion Hazards**
Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Dust may form explosive mixtures with air.

## 6. Accidental release measures

**Spill and Leak Procedures**
If molten, allow material to cool and place into an appropriate marked container for disposal.

## 7. Handling and Storage

**Storage Temperature:**
**maximum:** 77 °C (170.6 °F)

**Storage Period**
Not Established

**Handling/Storage Precautions**
Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Avoid breathing dust.

**Further Info on Storage Conditions**
Protect equipment (e.g. storage bins, conveyors, dust collectors) with explosion vents.

## 8. Exposure Controls / Personal Protection

Country specific exposure limits have not been established or are not applicable

**Industrial Hygiene/Ventilation Measures**
General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines, especially during cutting, grinding and high heat operations.

**Respiratory Protection**
Although no exposure limit has been established for this product, the OSHA PEL for Particulates Not Otherwise Regulated (PNOR) of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction is recommended. In addition, the ACGIH recommends 3 mg/m3 - respirable particles and 10 mg/m3 - inhalable particles for Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS).

**Hand Protection**
Wear heat resistant gloves when handling molten material.

**Eye Protection**
safety glasses with side-shields.

**Skin and body protection**
No special skin protection requirements during normal handling and use.

**Additional Protective Measures**
Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Purgings should be collected as small flat thin shapes or thin strands to allow for rapid cooling.

## 9. Physical and chemical properties

**Form:** solid
**Appearance:** sheets

| | |
|---|---|
| **Color:** | tint |
| **Odor:** | slight |
| **pH:** | not applicable |
| **Melting Point:** | 220 - 250 °C (428 - 482 °F) |
| **Boiling Point/Range:** | not applicable |
| **Flash Point:** | > 450 °C (> 842 °F) |
| **Lower Explosion Limit:** | Not Established |
| **Upper Explosion Limit:** | Not Established |
| **Vapor Pressure:** | not applicable |
| **Specific Gravity:** | approximately 1.1 - 1.2 |
| **Solubility in Water:** | Insoluble |
| **Autoignition Temperature:** | > 450 °C (> 842 °F) |
| **Decomposition Temperature:** | 380 °C (716 °F) |
| **Softening Point:** | 102 - 113 °C (215.6 - 235.4 °F) |
| **Bulk Density:** | 38 - 42 lb/ft3 |

## 10. Stability and Reactivity

**Hazardous Reactions**
Hazardous polymerization does not occur.

**Stability**
Stable

**Materials to avoid**
None known.

**Conditions to avoid**
None known.

**Hazardous decomposition products**
By Fire and Thermal Decomposition: Carbon Dioxide; Bisphenol A; Phenol; Carbonic Acid, Diphenyl Ester; Carbon monoxide, hydrocarbons, phenol derivatives

## 11. Toxicological Information

**Toxicity Data for Copolyester**
**Acute Oral Toxicity**
LD50: > 3,200 mg/kg (Rat, Male)
LD50: > 3,200 mg/kg (mouse, male)

**Acute dermal toxicity**
LD50: > 1,000 mg/kg (Guinea pig)

**Skin Irritation**
Guinea pig, Slightly irritating

**Eye Irritation**
rabbit, Slightly irritating
Guinea pig, Non-irritating

## 12. Ecological Information

**Ecological Data for Copolyester**
**Acute and Prolonged Toxicity to Fish**
LC50: > 100 mg/l (Fathead minnow (Pimephales promelas), 96 h)

**Acute Toxicity to Aquatic Invertebrates**
LC50: > 100 mg/l (Water flea (Daphnia magna), 96 h)

## 13. Disposal considerations

**Waste Disposal Method**
Waste disposal should be in accordance with existing federal, state and local environmental control laws.

## 14. Transportation information

**Land transport (DOT)**
**Non-Regulated**

**Sea transport (IMDG)**
**Non-Regulated**

**Air transport (ICAO/IATA)**
**Non-Regulated**

## 15. Regulatory Information

**United States Federal Regulations**

**OSHA Hazcom Standard Rating:** Non-Hazardous

**US. Toxic Substances Control Act:** Listed on the TSCA Inventory.

**US. EPA CERCLA Hazardous Substances (40 CFR 302):**
**Components**
None

**SARA Section 311/312 Hazard Categories:**
Non-hazardous under Section 311/312

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**
**Components**
None

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:**
**Components**
None

**US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):**
If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

**State Right-To-Know Information**
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:**

| Weight % | Components | CAS-No. |
|---|---|---|
| 1 - 100% | Copolyester | CAS# is a trade secret |

## 16. Other Information

**HMIS Rating**

| | |
|---|---|
| **Health** | 0 |
| **Flammability** | 1 |
| **Physical Hazard** | 0 |

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
* = Chronic Health Hazard

The method of hazard communication for Sheffield Plastics Inc. is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Sheffield Plastics Inc. as a customer service.

| | |
|---|---|
| Contact Person: | Product Safety Dapartment |
| Telephone: | (412) 777-2835 |
| MSDS Number: | 000000004486 |
| Version Date: | 12/04/2008 |
| Report Version: | 1.12 |


# Material Safety Data Sheet

## 1 - Chemical Product and Company Identification

| | |
|---|---|
| **Manufacturer: WD-40 Company**<br>**Address: 1061 Cudahy Place (92110)**<br>**P.O. Box 80607**<br>**San Diego, California, USA**<br>**92138 –0607**<br>**Telephone:**<br>**Emergency only: 1-888-324-7596 (PROSAR)**<br>**Information: 1-888-324-7596**<br>**Chemical Spills: 1-800-424-9300 (Chemtrec)**<br>**1-703-527-3887 (International Calls)** | **Chemical Name: Organic Mixture**<br><br>**Trade Name: WD-40 Bulk Liquid**<br><br>**Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion**<br><br>**MSDS Date Of Preparation: 3/11/10** |

## 2 – Hazards Identification

**Emergency Overview:**
**DANGER**! Harmful or fatal if swallowed. Combustible Liquid. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

**Symptoms of Overexposure:**
**Inhalation:** High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
**Skin Contact:** Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
**Eye Contact:** Contact may be irritating to eyes. May cause redness and tearing.
**Ingestion:** This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
**Chronic Effects:** None expected.
**Medical Conditions Aggravated by Exposure:** Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

**Suspected Cancer Agent:**
Yes No X

## 3 - Composition/Information on Ingredients

| Ingredient | CAS # | Weight Percent |
|---|---|---|
| Aliphatic Hydrocarbon | 64742-47-8 | 45-50 |
| Petroleum Base Oil | 64742-58-1<br>64742-53-6<br>64742-56-9<br>64742-65-0 | <25 |
| LVP Aliphatic Hydrocarbon | 64742-47-8 | 12-18 |
| Surfactant | Proprietary | <2 |
| Non-Hazardous Ingredients | Mixture | <10 |

**See Section 8 for Exposure Limits**

## 4 – First Aid Measures

**Ingestion (Swallowed):** Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

**Eye Contact:** Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
**Skin Contact:** Wash with soap and water. If irritation develops and persists, get medical attention.
**Inhalation (Breathing):** If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

**5 – Fire Fighting Measures**

**Extinguishing Media:** Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
**Special Fire Fighting Procedures**: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water.
**Unusual Fire and Explosion Hazards**: Combustible liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

**6 – Accidental Release Measures**

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

**7 – Handling and Storage**

**Handling:** Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children.
**Storage:** Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class II Liquid.

**8 – Exposure Controls/Personal Protection**

| Chemical | Occupational Exposure Limits |
|---|---|
| Aliphatic Hydrocarbon | 1200 mg/m3 TWA (manufacturer recommended) |
| Petroleum Base Oil | 5 mg/m3 (inhalable) TWA<br>5 mg/m3 TWA OSHA PEL |
| LVP Aliphatic Hydrocarbon | 1200 mg/m3 TWA (manufacturer recommended) |
| Surfactant | None Established |
| Non-Hazardous Ingredients | None Established |

**The Following Controls are Recommended for Normal Consumer Use of this Product**
**Engineering Controls:** Use in a well-ventilated area.
**Personal Protection:**
**Eye Protection:** Avoid eye contact. Safety glasses or goggles recommended.
**Skin Protection:** Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
**Respiratory Protection:** None needed for normal use with adequate ventilation.

**For Bulk Processing or Workplace Use the Following Controls are Recommended**
**Engineering Controls:** Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
**Personal Protection:**
**Eye Protection:** Safety goggles recommended where eye contact is possible.
**Skin Protection:** Wear chemical resistant gloves.
**Respiratory Protection:** None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
**Work/Hygiene Practices:** Wash with soap and water after handling.

**9 – Physical and Chemical Properties**

| | | | |
|---|---|---|---|
| Boiling Point: | 361 - 369°F (183 - 187°C) | Specific Gravity: | 0.8 – 0.82 @ 60°F |
| Solubility in Water: | Insoluble | pH: | Not Applicable |
| Vapor Pressure: | 1 psi @38°C (100°F) ASTM D323 | Vapor Density: | Greater than 1 |
| Percent Volatile: | 70-75% | VOC: | 412 grams/liter (49.5%) |
| Coefficient of Water/Oil Distribution: | Not Determined | Appearance/Odor | Light amber liquid/mild odor |
| Flash Point: | 122°F (49°C) Tag Open Cup | Flammable Limits: (Solvent Portion) | LEL: 0.6% UEL: 8.0% |
| Pour Point: | -63°C (-81.4°F ) ASTM D-97 | Kinematic Viscosity: | 2.79-2.96cSt @ 100°F |

**10 – Stability and Reactivity**

**Stability:** Stable
**Hazardous Polymerization:** Will not occur.
**Conditions to Avoid:** Avoid heat, sparks, flames and other sources of ignition.
**Incompatibilities:** Strong oxidizing agents.
**Hazardous Decomposition Products:** Carbon monoxide and carbon dioxide.

**11 – Toxicological Information**

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.
None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

**12 – Ecological Information**

No data is currently available.

**13 - Disposal Considerations**

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

**14 – Transportation Information_**

DOT Surface Shipping Description: Excepted from Hazmat (49CFR 173.150 (F)) in non-bulk packagings. Bulk Packagings: NA1993, Combustible Liquid, n.o.s. (contains Petroleum Distillates), PG III
IMDG Shipping Description: UN1268, Petroleum Distillates, n.o.s. 3, PG III

**15 – Regulatory Information**

**U.S. Federal Regulations**:
**CERCLA 103 Reportable Quantity:** This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
**SARA TITLE III**:
**Hazard Category For Section 311/312:** Acute Health, Fire Hazard
**Section 313 Toxic Chemicals**: This product contains the following chemicals subject to SARA Title III
Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None

**EPA Toxic Substances Control Act (TSCA) Status**: All of the components of this product are listed on the TSCA inventory
**California Safe Drinking Water and Toxic Enforcement Act (Proposition 65**): This product does not contain chemicals regulated under California Proposition 65.
**VOC Regulations**: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
**Canadian Environmental Protection Act**: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
**Canadian WHMIS Classification**: Class B-3 (Combustible Liquid)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

**16 – Other Information:**

**HMIS Hazard Rating:**
**Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Reactivity – 0 (minimal hazard)**

Revision Date: March 2010 Supercedes: January 2010

SIGNATURE:  TITLE: Director of Global Quality Assurance

REVISION DATE: March 2010 SUPERSEDES: August 2009

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

| | |
|---|---|
| **Material name** | **1620 Anti-spatter** |
| **Version #** | 01 |
| **Issue date** | 13-February-2014 |
| **Revision date** | - |
| **Supersedes date** | - |
| **CAS #** | Mixture |
| **Product use** | Protection against weld spatter. |
| **Manufacturer information** | |
| **Manufacturer/Supplier** | Harris Products Group<br>4501 Quality Place<br>Mason, Ohio 45040 US<br>custservmason@jwharris.com |
| **Telephone number** | 513-754-2000 |
| **Emergency Telephone Numbers** | 1-888-609-1762 (US, Canada, Mexico only)<br><br>Please quote 333988 |

## 2. Hazards Identification

| | |
|---|---|
| **Physical state** | Liquid. |
| **Appearance** | Clear, colorless liquid. |
| **Emergency overview** | WARNING<br><br>May be harmful if swallowed. May cause central nervous system effects. Causes skin and eye irritation. Suspect cancer hazard. May cause damage to the liver and kidneys. |
| **OSHA regulatory status** | This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). |
| **Potential health effects** | |
| **Routes of exposure** | Inhalation. Ingestion. Skin contact. Eye contact. |
| **Eyes** | Causes eye irritation. |
| **Skin** | Causes skin irritation. |
| **Inhalation** | High vapor concentrations are irritating to the eyes, nose, throat, and lungs. Exposure to high concentrations of vapor or mist may result in CNS effects such as headaches, nausea and narcosis. |
| **Ingestion** | May be harmful if swallowed. May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death. |
| **Chronic effects** | Prolonged or repeated exposure may cause liver, kidney, and central nervous system damage. |
| **Signs and symptoms** | Irritation of eyes and mucous membranes. Skin irritation. Upper respiratory tract irritation. Headaches, dizziness and nausea. |
| **Potential environmental effects** | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|---|---|---|
| Methylene chloride | 75-09-2 | 73 - 84 |
| Carbon dioxide | 124-38-9 | 17 |

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First Aid Measures

**First aid procedures**

**Eye contact** — Immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.

**Skin contact** — Immediately flush thoroughly with water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.

**Inhalation** — Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention if any discomfort continues.

**Ingestion** — Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to an unconscious person. Get medical attention.

**Notes to physician** — Treat symptomatically. Symptoms may be delayed.

**General advice** — Show this safety data sheet to the doctor in attendance.

## 5. Fire Fighting Measures

**Flammable properties** — Material may burn but not ignite readily.

**Extinguishing media**

**Suitable extinguishing media** — Dry chemical, foam, carbon dioxide.

**Unsuitable extinguishing media** — Water or foam (may cause frothing).

**Protection of firefighters**

**Specific hazards arising from the chemical** — Heated containers may rupture, explode or be thrown into the air. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

**Protective equipment and precautions for firefighters** — Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear suitable protective equipment.

**Fire fighting equipment/instructions** — Containers close to fire should be removed or cooled with water.

**Hazardous combustion products** — Product may decompose upon heating to produce phosgene, halogenated compounds, carbon monoxide, and unidentified organic compounds.

## 6. Accidental Release Measures

**Personal precautions** — Ensure adequate ventilation. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Wear protective clothing as described in Section 8 of this MSDS. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions** — Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for cleaning up** — Collect for salvage or disposal. Collect any released materials with absorbent, non-combustible material into suitable containers. Clean surface thoroughly to remove residual contamination. Should not be released into the environment.

## 7. Handling and Storage

**Handling** — Avoid inhalation of vapors/spray and contact with skin and eyes. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment (See Section 8). Observe good industrial hygiene practices.

**Storage** — Keep container tightly closed and in a well-ventilated place. Keep away from incompatible material. Keep away from food, drink and animal feedingstuffs.

## 8. Exposure Controls / Personal Protection

**Occupational exposure limits**

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 30000 ppm |
| | TWA | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 50 ppm |

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

| Components | Type | Value |
|---|---|---|
| Methylene chloride (CAS 75-09-2) | STEL | 125 ppm |
| | TWA | 25 ppm |

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | PEL | 5000 ppm |

**Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 54000 mg/m3 |
| | | 30000 ppm |
| | TWA | 9000 mg/m3 |
| | | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 174 mg/m3 |
| | | 50 ppm |

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 15000 ppm |
| | TWA | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 25 ppm |

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 30000 ppm |
| | TWA | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 50 ppm |

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 30000 ppm |
| | TWA | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 50 ppm |

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 54000 mg/m3 |
| | | 30000 ppm |
| | TWA | 9000 mg/m3 |
| | | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | TWA | 174 mg/m3 |
| | | 50 ppm |

**Mexico. Occupational Exposure Limit Values**

| Components | Type | Value |
|---|---|---|
| Carbon dioxide (CAS 124-38-9) | STEL | 27000 mg/m3 |
| | | 15000 ppm |
| | TWA | 9000 mg/m3 |
| | | 5000 ppm |
| Methylene chloride (CAS 75-09-2) | STEL | 1740 mg/m3 |
| | | 500 ppm |
| | TWA | 330 mg/m3 |
| | | 100 ppm |

**Engineering controls** Provide adequate ventilation and minimize the risk of inhalation of vapors and mists. Local exhaust is recommended. Shower, hand and eye washing facilities near the workplace are recommended.

**Personal protective equipment**

**Eye / face protection** Wear safety glasses with side shields (or goggles).

**Skin protection** Chemical resistant clothing is recommended.

**Respiratory protection** If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

**General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical & Chemical Properties

**Appearance** Clear, colorless liquid.

**Physical state** Liquid.

**Form** Liquid.

**Color** Colorless.

**Odor** Characteristic odor.

**Odor threshold** Not available.

**pH** Not available.

**Vapor pressure** 390 mm Hg

**Vapor density** 1.9 (Air = 1)

**Boiling point** 104 °F (40 °C)

**Melting point/Freezing point** Not applicable.

**Solubility (water)** Soluble in water.

**Specific gravity** 1.32 (H2O=1)

**Flash point** Not available.

**Flammability limits in air, upper, % by volume** Not available.

**Flammability limits in air, lower, % by volume** Not available.

**Auto-ignition temperature** Not available.

**Evaporation rate** 14.5 (Butyl acetate = 1)

## 10. Chemical Stability & Reactivity Information

**Chemical stability** Stable under normal temperatures and pressures.

**Conditions to avoid** Avoid exposing aerosol containers to high temperatures or direct sunlight.

**Incompatible materials** Acids, alkalis, oxidizing agents, reactive halogens, or reactive metals.

**Hazardous decomposition products** None under normal temperatures and pressures. In the event of fire: See Section 5.

**Possibility of hazardous reactions** Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

## 11. Toxicological Information

**Toxicological data**

| Components | Species | Test Results |
|---|---|---|
| Methylene chloride (CAS 75-09-2) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Rat | 1600 mg/kg |

**Sensitization** Not a skin sensitizer.

**Acute effects** May be harmful if swallowed. Exposure to high concentrations of vapor or mist may result in CNS effects such as headaches, nausea and narcosis.

**Local effects** Components of the product may be absorbed into the body through the skin. Causes skin and eye irritation.

**Chronic effects** Prolonged or repeated exposure may cause toxic effects to the central nervous system. Repeated or prolonged exposure to high concentrations may cause kidney and liver damage.

**Carcinogenicity** Suspect cancer hazard - may cause cancer.

**ACGIH Carcinogens**

Methylene chloride (CAS 75-09-2) A3 Confirmed animal carcinogen with unknown relevance to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Methylene chloride (CAS 75-09-2) 2B Possibly carcinogenic to humans.

**US NTP Report on Carcinogens: Anticipated carcinogen**

Methylene chloride (CAS 75-09-2) Reasonably Anticipated to be a Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Methylene chloride (CAS 75-09-2) Cancer

**Epidemiology** No data available.

**Mutagenicity** No data available.

**Reproductive effects** May adversely affect the developing fetus based on animal data.

**Further information** Symptoms may be delayed.

## 12. Ecological Information

**Ecotoxicological data**

| Components | | Species | Test Results |
|---|---|---|---|
| Methylene chloride (CAS 75-09-2) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 1250 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 140.8 - 277.8 mg/l, 96 hours |

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Environmental effects** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability** Not available.

**Bioaccumulation / Accumulation**

**Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

Methylene chloride (CAS 75-09-2) 1.25

**Mobility in environmental media** The product is soluble in water.

## 13. Disposal Considerations

**Waste codes**

**US RCRA Hazardous Waste U List: Reference**

Methylene chloride (CAS 75-09-2) U080

**Disposal instructions** Dispose of contents/container in accordance with all local, State and Federal regulations.

**Waste from residues / unused products** Dispose in accordance with all local, state and federal regulations.

## 14. Transport Information

**DOT**

**Basic shipping requirements:**

| | |
|---|---|
| **UN number** | UN1950 |
| **Proper shipping name** | AEROSOLS |
| **Hazard class** | 2.2 |
| **Subsidiary hazard class** | 6.1 |

**Additional information:**

| | |
|---|---|
| **Packaging exceptions** | 306 |
| **Packaging non bulk** | None |
| **Packaging bulk** | None |

2.2, 6.1

**IATA**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS |
| **Transport hazard class(es)** | 2.2 |
| **Subsidiary class(es)** | 6.1 |

**IMDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | AEROSOLS |
| **Transport hazard class(es)** | 2.2 |
| **Subsidiary class(es)** | 6.1 |

**TDG**

| | |
|---|---|
| **UN number** | UN1950 |
| **Proper shipping name** | AEROSOLS |
| **Hazard class** | 2.2 |
| **Subsidiary hazard class** | 6.1 |
| **Marine pollutant** | No |

## 15. Regulatory Information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Methylene chloride (CAS 75-09-2)

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

| | |
|---|---|
| Methylene chloride (CAS 75-09-2) | 0.1 % |

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

| | |
|---|---|
| Methylene chloride (CAS 75-09-2) | Listed. |

**CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)**

Methylene chloride: 1000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)** Not controlled

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**WHMIS status** Controlled

**WHMIS classification** D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

**WHMIS labeling**

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**State regulations** WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Hazardous Substances (Director's): Listed substance**

Carbon dioxide (CAS 124-38-9) Listed.
Methylene chloride (CAS 75-09-2) Listed.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Methylene chloride (CAS 75-09-2) Listed.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Methylene chloride (CAS 75-09-2) Listed: April 1, 1988 Carcinogenic.

**US. Massachusetts RTK - Substance List**

Carbon dioxide (CAS 124-38-9) Listed.
Methylene chloride (CAS 75-09-2) Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Carbon dioxide (CAS 124-38-9)
Methylene chloride (CAS 75-09-2)

**US. Pennsylvania Worker and Community Right-to-Know Law**

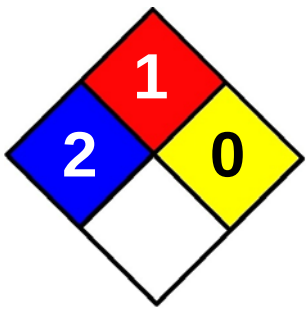
Carbon dioxide (CAS 124-38-9)
Methylene chloride (CAS 75-09-2)

## 16. Other Information

**Further information** HMIS® is a registered trade and service mark of the NPCA.
A HMIS® Health rating including an * indicates a chronic hazard.

**HMIS® ratings** Health: 2*
Flammability: 1
Physical hazard: 0

**NFPA Ratings**




**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## WELD-ON® AA10™ Low VOC 2-Component Adhesive

Date Revised: **FEB 2010**
Supersedes: **JUN 2009**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **WELD-ON® AA10™ Low VOC 2-Component Adhesive Kit**

**PRODUCT USE:** 2-Component Cartridge, high-strength, high viscosity, reactive Structural Adhesive

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
600 Ellis Road, Durham,NC 27703 - USA
P.O. Box 12729, Research Triangle Park, NC 27709 - USA
Tel. 1-919-598-2400

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | Category III | Flammable Liquid: | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | Category IV | | |
| Skin Sensitization: | YES | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**   **OR**  

**Signal Word:** **Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2
CONTROLLED PRODUCT CLASS D, DIVISION 2B

| Hazard Statements | | Precautionary Statements | | |
|---|---|---|---|---|
| Highly flammable liquid and vapor | May cause irritation/allergic skin reaction | Do not breathe vapor | Keep container closed | Use in well-ventilated area |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| ***Component "A" (Base Resin)*** | | | | |
| Methyl Methacrylate Monomer (MMA),* Stabilized | 80-62-6 | 201-297-1 | 05-2116297731-37-0000 | 45 - 75 |
| ***Component "B" (Catalyst-Initiator)*** | | | | |
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 25 - 60 |
| Benzoyl Peroxide (BPO)* | 94-36-0 | 202-327-6 | 05-2116297715-31-0000 | 5 - 12 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
*Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, oxides of nitrogen, hydrogen chloride hydrocarbons, acrid smoke and toxic gases.
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure air-supply masks.

| | HMIS | NFPA | |
|---|---|---|---|
| Health | 2 | 2 | 0-Minimal |
| Flammability | 3 | 3 | 1-Slight |
| Reactivity | 2 | 2 | 2-Moderate |
| | | | 3-Serious |
| | | | 4-Severe |

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation eqiuipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Contain spill with sand or other inert adsorbent or absorbent material. Use non-sparking tools.
Transfer to a closable vessel (Metal or polyethylene [PE])

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventliated room or shade and away from direct sunlight. Keep container tightly closed when not in use.
Keep away from ignition sources and incompatible materials. Follow all precautionary information on container label and product bulletins.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL |
|---|---|---|---|---|
| Methyl Methacrylate Monomer | 50 ppm | 100 ppm | 100 ppm | N/E |
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | |
| Benzoyl Peroxide | 5 mg/m$^3$ | | 5 mg/m$^3$ | |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splashproof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields,
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Use in a well-ventilated room. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | "A" White, viscous liquid; "B" Clear, syrupy liquid | | |
| **Odor:** | "A" Acrid odor, "B" Ketone | **Odor Threshold:** | "A" 0.75 ppm (MMA) |
| **P.H.:** | Not Applicable | | "B" 5.4 ppm (MEK) |
| **Boiling Point:** | "A" -100.5℃ (212.9℉) Based on first boiling component: MMA | **Evaporation Rate:** | "A" > 1.0 (BUAC = 1), "B" <1 |
| | "B" 180C (175℉) based on MEK | **Flammability:** | "A" Category 2, "B" Category 4 |
| **Flash Point:** | "A" 10.6℃ (51℉) T.C.C. based on MMA | **Flammability Limits:** | **LEL:** "A" 1.6, "B" - 1.8 |
| **Specific Gravity:** | "A" 1.053 @23℃ (73℉), "B" 0.950 @23℃ (73℉) | | **UEL:** "A" 12.5, "B" - 11.5 |
| **Solubility:** | "A" Slight in Water (MMA); "B" 27.5%/MEK @ 20℃ (68℉) | **Vapour Pressure:** | "A"-29 mm Hg @ 20℃ (68℉) |
| **Auto-ignition Temperature:** | "A" 421℃ (789.8℉): MMA, "B" 404℃ (759℉): MEK | | "B"-71. mm Hg for MEK |
| **Decomposition Temperature:** | "A" - N/A, "B" - N/A | **Vapour Density:** | "A" > 3 Air = 1), "B" - N/E |
| **VOC Content:** | "A" ≤ 50 g/l mixed, "B" N/E | **Other Data: Viscosity:** | Thick syrupy liquid |

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous decomposition products:** None in normal use. Oxides of carbon, oxides of nitrogen, hydrogen chloride, hydrocarbons, acrid smoke and toxic gases upon combustion.

**Conditions to avoid:** Keep away from direct sunlight, heat, temperatures above 29℃ (85℉), sparks, open flame and other ignition sources.

**Incompatible Materials:** Reducing and oxidizing agents and metal contaminants

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ |
|---|---|---|
| Methyl Methacrylate Monomer (MMA) | Oral: 7900 mg/kg (rat), Dermal: >35000 mg/kg (rabbit) | Inhalation: 3 hrs. 7093 PPM (rat) |
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/$m^3$ (rat) |
| Benzoyl Peroxide paste in proprietary plasticizer | Oral: 6400 mg/kg (rat) | Oral: 2 mg/l 96 hours (guppy) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotyxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** None known

**Mobility:** In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 50 g/l

**Degradability:** Not Established

**BioAccumulation:** Not Established

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult local disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

**Proper Shipping Name:** Adhesives
**Hazard Class:** 3
**Secondary Risk** None
**Identification Number:** UN 1133
**Packing Group:** PG II
**Label Required:** Class 3 Flammable Liquid
**Marine Pollutant:** NO

| EXCEPTION for Ground Shipping |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| TDG INFORMATION | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant
**Symbols:** F, Xi
**Risk Phrases:** R-11 Highly Flammable
R-20 Harmful by inhalation
R-21 Harmful if contact with skin
R-22 Harmful if swallowed
R-36/37/38 Irritating to eyes, respiratory system and skin
R-43 May cause sensitization by skin contact.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

**Safety Phrases:** S-2 Keep out of reach of children
S-7 Keep container tightly closed when not in use
S-9 Keep container in a well-ventilated place
S-15/16 Keep away from heat and sources of ignition. No smoking
S-23 Do not breathe vapor
S-24/25 Avoid contact with skin and eyes.
S-29 Do not empty into drains
S-37 Wear suitable gloves
S-51 Use only in well ventilated areas

## SECTION 16 - OTHER INFORMATION

**Specification Information:**
**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs
**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.
**Reissue date / reason for reissue:** 2/19/2010 / Modified GHS Standard Format
**Intended Use of Product:** Reactive acrylic adhesive bonding/cementing plastics and other substrates
Not recommended for use on Teflon, Silicone, Polypropylene, Polyethylene and other Polyolefin's or joints with an interference fit.

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## Weld-On® AA16™ Low VOC Solvent Cement for Bonding Acrylics

Date Revised: **FEB 2010**
Supersedes: **JUN 2009**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Weld-On® AA16™ Low VOC Solvent Cement for Acrylic**

**PRODUCT USE:** Low VOC Solvent Cement for Bonding Acrylics

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

**Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2A | | | | |

**GHS LABEL:**  OR 

**Signal Word:** **Warning**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2
CLASS D, DIVISION 1B

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapour | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H320: Causes eye irritation | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H335: May cause respiratory irritation | P337+P313: Get medical advice/attention |
| H336: May cause drowsiness or dizziness | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| H351: Suspected of causing cancer | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Methylene Chloride* (Dichloromethane) | 75-09-2 | 200-838-9 | Under development | 30 - 60 |
| Methyl Acetate | 79-20-9 | 201-185-2 | Under development | 10 - 15 |
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 0 - 40 |
| Methyl Methacrylate Monomer*, Stabilized (MMA) | 80-62-6 | 201-297-1 | 05-2116297731-37-0000 | 0 - 1 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Wash skin with soap and water. If irritation develops, get medical attention
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Water fog or fine spray, carbon dioxide, dry chemical or foam.
**Unsuitable Extinguishing Media:** Dry chemical powder.
**Exposure Hazards:** Inhalation and dermal contact.
**Combustion Products:** Hydrogen chloride, trace amounts of chlorine, phosgene.
**Protection for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing.

| | HMIS | NFPA | |
|---|---|---|---|
| Health | 2 | 2 | 0-Minimal |
| Flammability | 3 | 3 | 1-Slight |
| Reactivity | 1 | 1 | 2-Moderate |
| | | | 3-Serious |
| | | | 4-Severe |

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Clear all personnel from area. Do not breathe vapors. Ventilate area of leak or spill. Wear protective equipment positive pressure self contained or air supplied breathing apparatus. Follow confined space entry procedures.
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Mop or soak up immediately. Place in properly labeled metal containers.
**Materials not to be used for clean up:** Zinc, Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing. Do not swallow. Use with adequate ventilation.
Do not cut, drill, grind, weld or perform similar operations on or near empty containers. Vapors of this product are heavier than air and will collect in low areas.
Do not eat, drink or smoke while handling.
**Storage:** Store in a dry place. Keep container tightly closed when not in use. Significant vapor pressures (>5psi) can be generated above 55°F.
Follow all precautionary information on container label, product bulletins and solvent bonding literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Methylene Chloride (dichloromethane) | 50 ppm | N/E | 25 ppm | 125 |
| Methyl Acetate | 200 ppm | 250 ppm | 200 ppm | N/E |
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | 300 ppm |
| Methyl Methacrylate Monomer, Stabilized (MMA) | 50 ppm | 100 ppm | 100 ppm | N/E |

**Engineering Controls:** Provide general and/or local exhaust ventilation to control airborne levels below he exposure guidelines.
Lethal concentrations may exist in areas with poor ventilation
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.
**Skin Protection:** Prevent contact with the skin as much as possible. Use protective clothing chemically resistant to this material. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse or dispose of properly.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, medium syrupy liquid | | |
| **Odor:** | Ketone | **Odor Threshold:** | 5.4 ppm (MEK) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | -99C (-146°F) (Methyl Acetate) | | |
| **Boiling Point:** | 39.8°C (104°F) Based on first boiling component: Methylene Chloride | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -10°C (14°F) (Methyl Acetate | **Flammability:** | None |
| **Specific Gravity:** | 1.08 @23°C ( 73.4°F) | **Flammability Limits:** | **LEL:** 1.4% (MEK) |
| **Solubility:** | 32g/100g H2O (Methyl Acetate) | | **UEL:** 22% (Methylene Chloride) |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 355 mmHG @ 20C (Methylene Chloride) |
| **Auto-ignition Temperature:** | 454°C (849°F) (Methyl Acetate) | **Vapor Density:** | >2.0 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | **Other Data: Viscosity:** | Medium bodied |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤250 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable under recommended storage conditions. (See Section 7) |
| **Hazardous decomposition products:** | Depending on temperature and air supply, may include hydrogen chloride, trace amounts of chlorine, phosgene. |
| **Conditions to avoid:** | Avoid open flames, welding arcs, or other high temperature sources. Avoid direct sunlight. |
| **Incompatible Materials:** | Oxidizers, strong bases, amines, metals such as zinc powders, aluminum or magnesium powders, potassium sodium. |

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

| | |
|---|---|
| **Inhalation:** | Excessive overexposure may cause irritation to nose and throat. In confined areas, vapor can accumulate and can cause unconsciousness. |
| **Eye Contact:** | May cause moderate eye irritation which may be slow to heal. May cause slight corneal injury. Vapor may cause mild discomfort and redness. |
| **Skin Contact:** | Prolonged contact may cause skin burns. May cause more severe response on covered skin (under clothing and gloves). |
| **Ingestion:** | Low toxicity if small amount swallowed, however larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting. |

**Chronic (long-term) effects:** IARC Classification 2B (Methylene Chloride)

| **Toxicity:** | **$LD_{50}$** | **$LC_{50}$** |
|---|---|---|
| Methylene Chloride (dichloromethane) | Oral: 1500- 2500 mg/kg (rat) , Dermal: Not Determined | Inhalation 7 hrs. >10000 PPM (rat) |
| Methyl Acetate | Oral: > 5000 mg/kg (oral/rabbit) | Inhalation 4 hrs. 12000 PPM (rat) |
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/$m^3$ (rat) |
| Methyl Methacrylate Monomer, Stabilized (MMA) | Oral: 7900 mg/kg (rat), Dermal: >35000 mg/kg (rabbit) | Inhalation: 3 hrs. 7093 PPM (rat) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity:** | None Known |
| **Mobility:** | In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤250 g/l. Mobility in soil is high. |
| **Degradability:** | Moderately biodegradable |
| **Bioaccumulation:** | Low |

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

| | |
|---|---|
| **Proper Shipping Name:** | Flammable Liquid, toxic n.o.s. (Methyl Acetate, Dichloromethane) |
| **Hazard Class:** | 3 |
| **Secondary Risk:** | 6.1 |
| **Identification Number:** | UN 1992 |
| **Packing Group:** | PG II |
| **Label Required:** | Flammable Liquid & TOXIC - 6 |
| **Marine Pollutant:** | NO |

| **EXCEPTION for Ground Shipping** |
|---|
| **DOT Limited Quantity:** Up to 1L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| **TDG INFORMATION** | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3, TOXIC 6.1 |
| SHIPPING NAME: | Flammable Liquid, toxic n.o.s. (Methyl Acetate, Dichloromethane) |
| UN NUMBER/PACKING GROUP: | UN 1992, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Flammable, Harmful, Suspected Carcinogen

**Symbols:** F, Xn

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia, AICS, Korea ECL/TCCL, Japan MITI (ENCS), **CA Prop 65**

**Risk Phrases:**
- R11: Highly flammable.
- R23/34/35: Toxic by inhalation, in contact with skin and if swallowed.
- R36/37: Irritating to eyes and respiratory system.
- R40: Possible risks of irreversible effects.
- R66: Repeated exposure may cause skin dryness or cracking
- R67: Vapors may cause drowsiness and dizziness

**Safety Phrases:**
- S2: Keep out of the reach of children.
- S7:Keep container tightly closed when not in use.
- S9: Keep container in a well-ventilated place.
- S16: Keep away from sources of ignition. No smoking.
- S23/24/25: Avoid breathing vapors, contact with skin and eyes.
- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S29: Do not empty into drains.
- S33: Take precautionary measures against static discharges.
- S51: Use only in well ventilated areas.

## SECTION 16 - OTHER INFORMATION

| | | |
|---|---|---|
| **Specification Information:** | | |
| **Department issuing data sheet:** | IPS, Safety Health & Environmental Affairs | All ingredients are compliant with the requirements of the European |
| **E-mail address:** | <EHSinfo@ipscorp.com> | Directive on RoHS (Restriction of Hazardous Substances). |
| **Training necessary:** | Yes, training in practices and procedures contained in product literature. | |
| **Reissue date / reason for reissue:** | 2/19/2010 / Modified GHS Standard Format | |
| **Intended Use of Product:** | Solvent Cement for Bonding Acrylics | |

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## Weld-On® AA1707™ Solvent Cement for Bonding ABS

Date Revised: **FEB 2010**
Supersedes: **JAN 2008**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Weld-On® AA1707™ Solvent Cement for Bonding Acrylics**

**PRODUCT USE:** Solvent Cement for Bonding ABS

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**  **OR**  **Signal Word: Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapor | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H332: Harmful if inhaled | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H335: May cause respiratory irritation | P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| H336: May cause drowsiness or dizziness | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| EUH019: May form explosive peroxides | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 50 - 65 |
| Acetone | 67-64-1 | 200-662-2 | 05-2116297713-35-0000 | 3-20 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, hydrogen chloride and smoke
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure airline masks.

| | HMIS | NFPA | |
|---|---|---|---|
| Health | 2 | 2 | 0-Minimal |
| Flammability | 3 | 3 | 1-Slight |
| Reactivity | 0 | 0 | 2-Moderate |
| | | | 3-Serious |
| | | | 4-Severe |

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
**Materials not to be used for clean up:** Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | 300 ppm |
| Acetone | 500 ppm | 750 ppm | 750 ppm | 1000 ppm |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Milky, translucent, medium syrupy liquid | | |
| **Odor:** | Ketone | **Odor Threshold:** | 5.4 ppm (MEK) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | -95°C (-139°F) Based on first melting component: Acetone | | |
| **Boiling Point:** | 56.2°C (133.2°F) Based on first boiling component: Acetone | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -20°C (-4°F) TCC based on Acetone | **Flammability:** | Category 2 |
| **Specific Gravity:** | 0.870 @23°C (73.4°F) | **Flammability Limits:** | LEL: 2.5% based on Acetone |
| **Solubility:** | Solvent portion soluble in water. Resin portion separates out. | | UEL: 12.8% based on Acetone |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 78 mm Hg @ 20°C (68°F) MEK |
| **Auto-ignition Temperature:** | 465°C (869°F) based on Acetone | **Vapor Density:** | >2 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | **Other Data: Viscosity:** | Medium bodied |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous decomposition products:** None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

**Conditions to avoid:** Keep away from heat, sparks, open flame and other ignition sources.

**Incompatible Materials:** Oxidizers, strong acids and bases, amines, ammonia

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ |
|---|---|---|
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 $mg/m^3$ (rat) |
| Acetone | Oral: 5800 mg/kg (rat) | Inhalation 50,100 $mg/m^3$ (rat) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** None Known

**Mobility:** In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 600 g/l.

**Degradability:** Biodegradable

**Bioaccumulation:** Minimal to none.

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

**Proper Shipping Name:** Adhesives

**Hazard Class:** 3

**Secondary Risk:** None

**Identification Number:** UN 1133

**Packing Group:** PG II

**Label Required:** Class 3 Flammable Liquid

**Marine Pollutant:** NO

| EXCEPTION for Ground Shipping |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| TDG INFORMATION | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant

**Symbols:** F, Xi

**Risk Phrases:** R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

**Safety Phrases:** S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

## SECTION 16 - OTHER INFORMATION

**Specification Information:**

**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs

**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.

**Reissue date / reason for reissue:** 2/19/2010 / Modified GHS Standard Format

**Intended Use of Product:** Adhesive for bonding/cementing ABS

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## Weld-On® AA1802™ Solvent Cement for Bonding Acrylics

Date Revised: **FEB 2010**
Supersedes: **JAN 2008**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Weld-On® AA1802™ Solvent Cement for Bonding Acrylics**

**PRODUCT USE:** Solvent Cement for Bonding Acrylics

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

**Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**   **OR**  

**Signal Word:** **Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapor | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H332: Harmful if inhaled | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H335: May cause respiratory irritation | P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| H336: May cause drowsiness or dizziness | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| EUH019: May form explosive peroxides | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 35-70 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, hydrogen chloride and smoke
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure airline masks.

| | HMIS | NFPA | |
|---|---|---|---|
| Health | 2 | 2 | 0-Minimal |
| Flammability | 3 | 3 | 1-Slight |
| Reactivity | 0 | 0 | 2-Moderate |
| | | | 3-Serious |
| | | | 4-Severe |

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
**Materials not to be used for clean up:** Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | 300 ppm |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, regular syrupy liquid | | |
| **Odor:** | Ketone | **Odor Threshold:** | 5.4 ppm (MEK) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | - 86°C (- 123°F) Based on first melting component: MEK | | |
| **Boiling Point:** | 80°C (176°F) Based on first boiling component: MEK | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -9°C (16°F) TCC based on MEK | **Flammability:** | Category 2 |
| **Specific Gravity:** | 0.880 @23°C (73.4°F) | **Flammability Limits:** | **LEL:** 1.4% based on MEK |
| **Solubility:** | Solvent portion soluble in water. Resin portion separates out. | | **UEL:** 11.4% based on MEK |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 78 mm Hg @ 20°C (68°F) MEK |
| **Auto-ignition Temperature:** | 515°C (959°F) based on MEK | **Vapor Density:** | >2 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | **Other Data: Viscosity:** | Regular bodied |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous decomposition products:** None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

**Conditions to avoid:** Keep away from heat, sparks, open flame and other ignition sources.

**Incompatible Materials:** Oxidizers, strong acids and bases, amines, ammonia

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ |
|---|---|---|
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/m$^3$ (rat) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** None Known

**Mobility:** In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 600 g/l.

**Degradability:** Biodegradable

**Bioaccumulation:** Minimal to none.

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

| | |
|---|---|
| **Proper Shipping Name:** | Adhesives |
| **Hazard Class:** | 3 |
| **Secondary Risk:** | None |
| **Identification Number:** | UN 1133 |
| **Packing Group:** | PG II |
| **Label Required:** | Class 3 Flammable Liquid |
| **Marine Pollutant:** | NO |

| **EXCEPTION for Ground Shipping** |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| **TDG INFORMATION** | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant

**Symbols:** F, Xi

**Risk Phrases:**
R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.

**Safety Phrases:**
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

## SECTION 16 - OTHER INFORMATION

**Specification Information:**

**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs

**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.

**Reissue date / reason for reissue:** 2/19/2010 / Modified GHS Standard Format

**Intended Use of Product:** Adhesive for bonding/cementing Styrene plastic piping and fittings

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## WELD-ON® AA2007™ Vinyl Cement

Date Revised: **FEB 2010**
Supersedes: **JAN 2008**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **WELD-ON® AA2007™ Vinyl Cement**

**PRODUCT USE:** Solvent cement for bonding PVC

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**  **OR**  **Signal Word: Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapor | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H332: Harmful if inhaled | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H335: May cause respiratory irritation | P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| H336: May cause drowsiness or dizziness | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| EUH019: May form explosive peroxides | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Tetrahydrofuran (THF) | 109-99-9 | 203-726-8 | 05-2116297729-22-0000 | 40 - 60 |
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 36 - 49 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, hydrogen chloride and smoke
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure airline masks.

| | HMIS | NFPA |
|---|---|---|
| Health | 2 | 2 |
| Flammability | 3 | 3 |
| Reactivity | 0 | 0 |

0-Minimal
1-Slight
2-Moderate
3-Serious
4-Severe

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
**Materials not to be used for clean up:** Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Tetrahydrofuran (THF) | 50 ppm | 100 ppm | 200 ppm | |
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, syrupy liquid | | |
| **Odor:** | Ethereal | **Odor Threshold:** | 2.5 ppm (THF) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | -108.5°C (-163.3°F) Based on first melting component: THF | | |
| **Boiling Point:** | 66°C (151°F) Based on first boiling component: THF | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -20°C (-4°F) TCC based on THF | **Flammability:** | Category 2 |
| **Specific Gravity:** | 0.849 @23°C ( 73°F) | **Flammability Limits:** | **LEL:** 1.4% based on MEK |
| **Solubility:** | Solvent portion soluble in water. Resin portion separates out. | | **UEL:** 11.8% based on THF |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 129 mm Hg @ 20°C (68°F)based on THF |
| **Auto-ignition Temperature:** | 321°C (610°F) based on THF | **Vapor Density:** | >2 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | **Other Data: Viscosity:** | Regular bodied |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable |
| **Hazardous decomposition products:** | None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke. |
| **Conditions to avoid:** | Keep away from heat, sparks, open flame and other ignition sources. |
| **Incompatible Materials:** | Oxidizers, strong acids and bases, amines, ammonia |

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ |
|---|---|---|
| Tetrahydrofuran (THF) | Oral: 2842 mg/kg (rat) | Inhalation 3 hrs. 21,000 mg/m$^3$ (rat) |
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/m$^3$ (rat) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity:** | None Known |
| **Mobility:** | In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 600 g/l. |
| **Degradability:** | Biodegradable |
| **Bioaccumulation:** | Minimal to none. |

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

| | |
|---|---|
| **Proper Shipping Name:** | Adhesives |
| **Hazard Class:** | 3 |
| **Secondary Risk:** | None |
| **Identification Number:** | UN 1133 |
| **Packing Group:** | PG II |
| **Label Required:** | Class 3 Flammable Liquid |
| **Marine Pollutant:** | NO |

| **EXCEPTION for Ground Shipping** |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| **TDG INFORMATION** | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant

**Symbols:** F, Xi

**Risk Phrases:**
R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

**Safety Phrases:**
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

## SECTION 16 - OTHER INFORMATION

**Specification Information:**

**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs

**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.

**Reissue date / reason for reissue:** 2/19/2010 / Modified GHS Standard Format

**Intended Use of Product:** Solvent cement for bonding PVC

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

# Weld On # 3 Material Safety Data Sheet

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act and shall not be used for any other purpose. A&C Plastics, Inc. urges the customers receiving this Material Safety Data Sheet to study it carefully to become aware of the hazards, if any, of the product involved. In the interest of safety, you should notify your employees, agents and contractors of the information on this sheet.

## SECTION I

| CHEMICAL NAME and FAMILY | TRADE NAME: |
|---|---|
| Mixture of Organic Solvents | WELD-ON 3 For Acrylics |
| | FORMULA: Proprietary |

## SECTION II - HAZARDOUS INGREDIENTS

| One of the ingredients listed below is listed as a carcinogen (‡) by the IARC and/or NTP | CAS# | APPROX % | ACGIH-TLV | ACGIH-STEL | OSHA-PEL | OSHA-STEL | DUPONT AEL# |
|---|---|---|---|---|---|---|---|
| Methylene Chloride (‡) | 75-09-2 | 80 - 95* | 50 PPM | | 25 PPM | 125 PPM | |
| Dimethyl Glutarate | 1119-40-0 | 1 - 15 | NE | NE | NE | NE | 1.5 PPM |
| Methyl Methacrylate Monomer | 80-62-6 | 1- 5 | 100 PPM | | 100 PPM | | |

# Dupont mfg's Acceptable Exposure Limit (AEL) guidelines for 8 hour TWA,

All of the constituents of Weld-On adhesive products are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.

*Title III Section 313 Supplier Notification: This product contains toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372. This information must be included in all MSDS's that are copied and distributed for this material.

**PROPOSITION 65 NOTICE**

This product contains chemicals known to the state of California to cause cancer.

This material is an aspiration hazard and defats the skin. The ingredients are toxic by inhalation and ingestion and may be absorbed through the skin. Exposure by these routes may cause central nervous system depression, liver and kidney damage and may sensitize the heart muscle. Methylene Chloride may interfere with the oxygen carrying capacity of the blood. Methylene Chloride is a possible human cancer hazard based on test results with laboratory animals. Methylene Chloride has been listed as a potential carcinogen by IARC and NTP. Methylene Chloride is not believed to pose a measureable risk to man when handled as recommended. Under some Under some circumstances, mutagenic changes have been observed with Methyl Methacrylate in animal studies. Precautions should be taken to avoid unnecesary exposure to this cement.

**BULK SHIPPING INFORMATION / CONTAINERS LARGER THAN ONE GALLON**

| | |
|---|---|
| DOT Shipping Name: | Dichloromethane |
| DOT Hazard Class: | 6.1 |
| Identification Number: | UN 1593 |
| Packaging Group: | III |
| Label Required: | Toxic (Domestic and International) |

**SHIPPING INFORMATION FOR CONTAINERS LESS THAN ONE GALLON**

| | |
|---|---|
| DOT Shipping Name: | Consumer Commodity |
| DOT Hazard Class: | ORM-D |

**SPECIAL HAZARD DESIGNATIONS**

| | HMIS | NFPA | HAZARD RATING |
|---|---|---|---|
| HEALTH: | 3 | 2 | 0 - MINIMAL |
| FLAMMABILITY: | 1 | 1 | 1 - SLIGHT |
| REACTIVITY: | 0 | 0 | 2 - MODERATE |
| PROTECTIVE | | | 3 - SERIOUS |
| EQUIPMENT: | B - H | | 4 - SEVERE |

B = Eye, Hand/Skin Protection (Normal use or application & small spill clean-up activities)

H = Eye, Hand/Skin and Respiratory Protection plus Impermeable Apron (When risk of immersion, dipping and/or splashing is present)

## SECTION III - PHYSICAL DATA

| APPEARANCE | ODOR | BOILING POINT (℉/℃) |
|---|---|---|
| Clear, thin liquid | Characteristic odor of chlorinated solvents | 104℉ (40℃) Based on first boiling component: Methylene Chloride |
| **SPECIFIC GRAVITY @ 73℉ ± 3.6°(23℃ ± 2°)** | **VAPOR P RESSURE (mm Hg.)** | **PERCENT VOLATILE BY VOLUME (%)** |
| Typical 1.33 ± 0.040 | 355 mm Hg. @ 68°F (20°C) based on first boiling component, Methylene Chloride | 100% |
| **VAPOR DENSITY (Air = 1)** | **EVAPORATION RATE (BUAC = 1)** | **SOLUBILITY IN WATER** |
| 2.93 based on Methylene Chloride | Approx. 14.5 based on Methylene Chloride | Slightly miscible |

VOC STATEMENT: Maximum VOC emissions as applied and tested per SCAQMD Rule 1168, Test Method 316A: <250 Grams/Liter (g/l).

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| FLASH POINT | FLAMMABLE LIMITS (Percent by Volume) | LEL | UEL |
|---|---|---|---|
| NONE | | N/A | N/A |

**FIRE EXTINGUISHING MEDIA**

Dry chemical, carbon dioxide or foam. Water may be an ineffective extinguishing agent.

**SPECIAL FIRE FIGHTING PROCEDURES**

The use of a SCBA is recommended for fire fighters. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame. Avoid spreading burning liquid with water used for cooling purposes.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Avoid hot surfaces and other sources of ignition.

# Weld On # 3 Material Safety Data Sheet

## SECTION V - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: ____X____ Inhalation ____X____ Skin Contact _____ Eye Contact _____ Ingestion

EFFECT OF OVEREXPOSURE

**ACUTE:**

Inhalation: Exposure to vapors may result in nausea, drowsiness, dizziness, headache, fatigue, other CNS effects and heart arrhythmias (irregular heart beats). Can cause irritation of eyes and nasal passages. Exposure to high concentrations may impair blood's ability to transport oxygen. Prolonged or repeated exposure to vapors may cause liver and kidney damage.

Skin Contact: Repeated or prolonged contact may result in defatting of skin, irritation, contact dermatitis, rash, itching, swelling. May be absorbed through skin.

Eye Contact: Direct exposure may result in irritation with corneal or conjuctival inflammation if not removed promptly. Vapors may irritate eyes.

Ingestion: Moderately toxic. Irritant to digestive tract, may induce signs of central nervous system depression. Do not induce vomiting and obtain prompt medical attention.

**CHRONIC:**

Inhalation ‡ This material is an aspiration hazard and defats the skin. The ingredients are toxic by inhalation and ingestion and may be absorbed through the skin. Exposure through these routes may cause central nervous system depression, liver and kidney damage and may sensitize the heart muscle. Methylene Chloride may interfere with the oxygen carrying capacity of the blood. Methylene Chloride is a possible human cancer based on test results with laboratory animals. Methylene Chloride has been listed as a potential carcinogen by IARC and NTP. Methylene Chloride is not believed to pose a measureable risk to man when handled as recommended. Under some circumstances, mutagenic changes have been observed with Methyl Methacrylate in animal studies. Precautions should be taken to avoid unnecesary exposure to this cement.

Ingestion Ingestion of alcohol may increase the potential for development of toxic effects or reactions resulting from Methylene Chloride exposure.

| REPRODUCTIVE EFFECTS | TERATOGENICITY | MUTAGENICITY | EMBRYOTOXICITY | SENSITIZATION TO PRODUCT | SYNERGISTIC PRODUCTS |
|---|---|---|---|---|---|
| N. AP. | POSS. | N. AP. | POSS. | N. AP. | N. AV. |

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: This material may aggravate an existing dermatitis. Individuals with pre-existing diseases of the heart, liver or kidney may have increased susceptibility to the toxicity of excessive exposures.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove patient to fresh air and if breathing stopped, give artificial respiration. If breathing is difficult, give oxygen. Contact physician immediately.

Eye Contact: Immediately flush eyes with flowing water for 15 minutes and contact a physician.

Skin Contact: Wash skin with soap and water. Remove contaminated clothing and shoes. Launder clothing before reuse. If irritation develops, get medical attention.

Ingestion: Give 1 or 2 glasses of water or milk. Do not induce vomiting. Call physician or poison control center immediately.

## SECTION VI - REACTIVITY

| STABILITY | | | CONDITIONS TO AVOID: |
|---|---|---|---|
| | UNSTABLE | | Stable under normal conditions of storage and handling. Avoid contact or exposure to fire, heat, sparks, electric arcs, open flame and hot surfaces which can cause thermal decomposition. |
| | STABLE | X | |

INCOMPATIBILITY

(MATERIALS TO AVOID) Strong alkalies, oxygen, nitrogen, peroxide, potassium and reactive metals.

HAZARDOUS DECOMPOSITION PRODUCTS

This product gives out carbon monoxide (CO), carbon dioxide (CO□), Phosgene gas and smoke upon combustion or contact with reactive metals.

| HAZARDOUS POLYMERIZATION | | | CONDITIONS TO AVOID |
|---|---|---|---|
| | MAY OCCUR | | Keep away from heat, sparks, open flame and other sources of ignition. |
| | WILL NOT OCCUR | X | |

## SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate area, ventilate and avoid breathing vapors. Dike area to contain spill. Clean up area (wear protective equipment) by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. If spill occurs indoors, turn off heating and/or air conditioning systems to prevent vapors from contaminating entire building.

WASTE DISPOSAL METHOD

Recovered liquids may be sent to a licensed reclaimer or incineration facility. Contaminated material must be disposed of in a permitted solid waste management facility. Follow local, State and Federal regulations. Material should not be allowed to drain into domestic sewer or storm drains. Consult disposal expert.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Atmospheric levels should be maintained below established exposure limits contained in Section II. If airborne concentrations exceed those limits, use of a NIOSH approved positive-pressure, full-facepiece SCBA or positive-pressure, full-facepiece supplied air respirator (with an auxiliary positive pressure SCBA) is recommended. Even for emergency and other conditions where short term exposure guidelines may/may not be exceeded, use of an approved positive pressure self-contained breathing apparatus (SCBA) is recommended.

VENTILATION

Use only with adequate ventilation. Do not use in close quarters or confined spaces. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below 25 ppm TWA. Use only explosion-proof ventilation equipment. Monitoring should be performed to determine exposure level(s) IAW (in accordance with) 29 CFR 1910.1052.

| PROTECTIVE GLOVES | EYE PROTECTION |
|---|---|
| PVA coated or Latex-Nitrile rubber. Surgical gloves or solvent resistant barrier creme should provide adequate protection in normal usage. | Splashproof chemical goggles, face shield, safety glasses with brow guards and side shields, etc. as appropriate for exposure. |

OTHER PROTECTIVE EQUIPMENT AND HYGIENIC PRACTICES

Impervious apron and a source of running water to flush or wash the eyes and skin in case of contact.

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a shaded place below 80℉ (27℃) . Keep a way from all sources of heat, sparks, open flame and other sources of ignition. Close container after each use. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Train employees on all special handling procedures before they work with this product.

OTHER PRECAUTIONS

Follow all precautionary information given on container label, product bulletins and our solvent cementing literature. All material handling equipment should be electrically grounded.

**WARNING; This product may not be used in areas bounded by Southern California's South Coast Air Quality Management District (SCAQMD)**

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

# GHS SAFETY DATA SHEET

Date Revised: **NOV 2010**
Supersedes: **FEB 2010**

**WELD-ON® AA40™ 2-Component Methacrylate Low VOC Adhesive (20:1 Mix Ratio)**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **WELD-ON® AA40™ 2-Component Methacrylate Low VOC Adhesive (20:1 Mix Ratio)**

**PRODUCT USE:** 2-Component Adhesive for bonding termoplastics, metals and other composites

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
600 Ellis Road, Durham,NC 27703 - USA
P.O. Box 12729, Research Triangle Park, NC 27709 - USA
Tel. 1-919-598-2400

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

**Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | Category III | Flammable Liquid: | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | Category IV | | |
| Skin Sensitization: | YES | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**   **OR**  

**Signal Word:** **Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2
CONTROLLED PRODUCT CLASS D, DIVISION 2B

| Hazard Statements | | Precautionary Statements | | |
|---|---|---|---|---|
| Highly flammable liquid and vapor | May cause irritation/allergic skin reaction | Do not breathe vapor | Keep container closed | Use in well-ventilated area |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| ***Component "A" (90%)*** | | | | |
| Methyl Methacrylate Monomer (MMA),* Stabilized | 80-62-6 | 201-297-1 | 05-2116297731-37-0000 | 40 - 65 |
| ***Component "B" (10% Activator)*** | | | | |
| Benzoyl Peroxide (BPO)* | 94-36-0 | 202-327-6 | 05-2116297715-31-0000 | <15% |
| in Dibutyl Phthalate (DP)* | 84-74-2 | 201-557-4 | Under development | >90% |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
*Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, oxides of nitrogen, hydrogen chloride hydrocarbons, acrid smoke and gases.
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure air-supply masks.

| | HMIS | NFPA |
|---|---|---|
| Health | 2 | 2 |
| Flammability | 3 | 3 |
| Reactivity | 2 | 2 |

0-Minimal
1-Slight
2-Moderate
3-Serious
4-Severe

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation eqiuipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Contain spill with sand or other inert adsorbent or absorbent material. Use non-sparking tools.
Transfer to a closable vessel (Metal or polyethylene [PE])

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventliated room or shade and away from direct sunlight. Keep container tightly closed when not in use.
Keep away from ignition sources and incompatible materials. Follow all precautionary information on container label and product bulletins.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL |
|---|---|---|---|---|
| Methyl Methacrylate Mon. | 50 ppm | 100 ppm | 100 ppm | N/E |
| Benzoyl Peroxide | 5 mg/m$^3$ | | 5 mg/m$^3$ | N/E |
| Dibutyl Phthalate | 5 mg/m$^3$ | | 5 mg/m$^3$ | |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splashproof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields,
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Use in a well-ventilated room. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | "A" - Clear, heavy viscous liquid, "B" - Oily, colorless liquid | **Odor Threshold:** | "A" - 0.75 ppm: MMA |
| **Odor:** | "A" - Strong Solvent Odor, "B" - Mild | **Active Oxygen Content:** | "B"- <1 % |
| **pH:** | Not Applicable | **Evaporation Rate:** | "A" - > 1.0, "B" - <1 (BUAC = 1) |
| **Boiling Point:** | "A" 100.5°C (212.9°F) Based on first boiling component: MMA | **Flammability:** | "A" - Category 2, "B" - Category 4 |
| | "B" -340°C (644°F) Based on first boiling component: DP | **Flammability Limits:** | LEL: "A" - 2.1% based on MMA |
| **Flash Point:** | "A" 10.0°C (50°F) T.C.C. based on MMA, "B" 157°C (315°F) for DP | | **UEL:** "A" - 12.5% based on MMA |
| **Specific Gravity:** | "A" 1.03 @23°C (73°F) "B" 1.160 @23°C (73°F) | | **LEL**: "B" 0.5% based on DP |
| | | | **UEL**: "B" - 2.5% based on DP |
| **Solubility:** | "A" - Slight in Water (MMA, MAA), "B" - Insoluble in Water | **Vapor Pressure:** | "A" - 28 mm Hg @ 20°C (68°F): MMA |
| **Auto-ignition Temperature:** | "A" - 430°C (806°F): MMA, "B" - 402°C (755.6°F):DP | | "B" - < 0.01 mm Hg @ 20°C:DP |
| **Decomposition Temperature:** | "A" - Not Applicable, "B" - 110°C (230°F) | **Vapor Density:** | "A" - > 1.0 (Air = 1), "B" - N/E |
| | | **VOC Content:** | "A" - ≤ 50 g/l mixed, "B" - None |

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable, unless heated

**Hazardous decomposition products:** None in normal use. Oxides of carbon, oxides of nitrogen, hydrogen chloride, hydrocarbons, acrid smoke and gases upon combustion.

**Conditions to avoid:** Keep away from direct sunlight, heat, sparks, open flame and other ignition sources.

**Incompatible Materials:** Reducing and oxidizing agents and metal contaminants

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| **Toxicity:** | **$LD_{50}$** | **$LC_{50}$** |
|---|---|---|
| Methyl Methacrylate Monomer (MMA) | Oral: 7900 mg/kg (rat), Dermal: >35000 mg/kg (rabbit) | Inhalation: 3 hrs. 7093 PPM (rat) |
| Benzoyl Peroxide | Oral: 6400 mg/kg (rat) | Oral: 2 mg/l 96 hours (guppy) |
| Dibutyl Phthalate | Oral: 8900 mg/kg (rat), Dermal: >20 ml/kg (rabbit) | |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotyxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** None known

**Mobility:** In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤50 g/l

**Degradability:** Not Established

**BioAccumulation:** Not Established

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult local disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

**Proper Shipping Name:** Adhesives
**Hazard Class:** 3
**Secondary Risk:** None
**Identification Number:** UN 1133
**Packing Group:** PG II
**Label Required:** Class 3 Flammable Liquid
**Marine Pollutant:** NO

| EXCEPTION for Ground Shipping |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| TDG INFORMATION | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Harmful

**Symbols:** F, Xn

**Risk Phrases:**
R-11 Highly Flammable
R-20 Harmful by inhalation
R-21 Harmful if contact with skin
R-22 Harmful if swallowed
R-36/37/38 Irritating to eyes, respiratory system and skin
R-43 May cause sensitization by skin contact.

**Safety Phrases:**
S-2 Keep out of reach of children
S-7 Keep container tightly closed when not in use
S-9 Keep container in a well-ventilated place
S-15/16 Keep away from heat and sources of ignition. No smoking
S-23 Do not breathe vapor
S-24/25 Avoid contact with skin and eyes.
S-29 Do not empty into drains
S-37 Wear suitable gloves
S-51 Use only in well ventilated areas

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

## SECTION 16 - OTHER INFORMATION

**Specification Information:**

**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs

**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.

**Reissue date / reason for reissue:** 11/8/2010 / Modified GHS Standard Format

**Intended Use of Product:** Structural adhesive bonding

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPS CORPORATION

# GHS SAFETY DATA SHEET

## WELD-ON® AA4052™ Low VOC Multi-Purpose Plastic Pipe Cement

Date Revised: **FEB 2010**
Supersedes: **JAN 2008**

## SECTION I - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **WELD-ON® AA4052™ Low VOC Multi-Purpose Plastic Pipe Cement**

**PRODUCT USE:** Multi-purpose Low VOC Solvent Cement for PVC / CPVC Plastic Pipe

**SUPPLIER:**

**MANUFACTURER:** IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

**EMERGENCY:** Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS CLASSIFICATION:**

| Health | | Environmental | | Physical | |
|---|---|---|---|---|---|
| Acute Toxicity: | Category 4 | Acute Toxicity: | None Known | Flammable Liquid | Category 2 |
| Skin Irritation: | Category 3 | Chronic Toxicity: | None Known | | |
| Skin Sensitization: | NO | | | | |
| Eye: | Category 2B | | | | |

**GHS LABEL:**   **OR**  

**Signal Word:** **Danger**

**WHMIS CLASSIFICATION:** CLASS B, DIVISION 2

| Hazard Statements | Precautionary Statements |
|---|---|
| H225: Highly flammable liquid and vapor | P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| H319: Causes serious eye irritation | P261: Avoid breathing dust/fume/gas/mist/vapors/spray |
| H332: Harmful if inhaled | P280: Wear protective gloves/protective clothing/eye protection/face protection |
| H335: May cause respiratory irritation | P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| H336: May cause drowsiness or dizziness | P403+P233: Store in a well ventilated place. Keep container tightly closed |
| EUH019: May form explosive peroxides | P501: Dispose of contents/container in accordance with local regulation |

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| | CAS# | EINECS # | REACH Pre-registration Number | CONCENTRATION % by Weight |
|---|---|---|---|---|
| Tetrahydrofuran (THF) | 109-99-9 | 203-726-8 | 05-2116297729-22-0000 | 25 - 50 |
| Methyl Ethyl Ketone (MEK) | 78-93-3 | 201-159-0 | 05-2116297728-24-0000 | 16 - 31 |
| Cyclohexanone | 108-94-1 | 203-631-1 | 05-2116297718-25-0000 | 3 - 18 |

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

## SECTION 4 - FIRST AID MEASURES

**Contact with eyes:** Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
**Inhalation:** Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
**Ingestion:** Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

## SECTION 5 - FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
**Unsuitable Extinguishing Media:** Water spray or stream.
**Exposure Hazards:** Inhalation and dermal contact
**Combustion Products:** Oxides of carbon, hydrogen chloride and smoke
**Protection for Firefighters:** Self-contained breathing apparatus or full-face positive pressure airline masks.

| | HMIS | NFPA |
|---|---|---|
| Health | 2 | 2 |
| Flammability | 3 | 3 |
| Reactivity | 0 | 0 |

0-Minimal
1-Slight
2-Moderate
3-Serious
4-Severe

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
**Methods for Cleaning up:** Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
**Materials not to be used for clean up:** Aluminum or plastic containers

## SECTION 7 - HANDLING AND STORAGE

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
**Storage:** Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

## SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

**EXPOSURE LIMITS:**

| Component | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL: |
|---|---|---|---|---|
| Tetrahydrofuran (THF) | 50 ppm | 100 ppm | 200 ppm | 250 ppm |
| Methyl Ethyl Ketone (MEK) | 200 ppm | 300 ppm | 200 ppm | 300 ppm |
| Cyclohexanone | 20 ppm | 50 ppm | 50 ppm | |

**Engineering Controls:** Use local exhaust as needed.
**Monitoring:** Maintain breathing zone airborne concentrations below exposure limits.
**Personal Protective Equipment (PPE):**
**Eye Protection:** Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
**Skin Protection:** Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
**Respiratory Protection:** Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, medium syrupy liquid | | |
| **Odor:** | Ketone | **Odor Threshold:** | 0.88 ppm (Cyclohexanone) |
| **pH:** | Not Applicable | | |
| **Melting/Freezing Point:** | -108.5°C (-163.3°F) Based on first melting component: THF | | |
| **Boiling Point:** | 66°C (151°F) Based on first boiling component: THF | **Evaporation Rate:** | > 1.0 (BUAC = 1) |
| **Flash Point:** | -20°C (-4°F) TCC based on THF | **Flammability:** | Category 2 |
| **Specific Gravity:** | 0.955±0.01 @23°C ( 73°F) | **Flammability Limits:** | **LEL:** 1.1% based on Cyclohexanone |
| **Solubility:** | Solvent portion soluble in water. Resin portion separates out. | | **UEL:** 11.8% based on THF |
| **Partition Coefficient n-octanol/water:** | Not Available | **Vapor Pressure:** | 129 mm Hg @ 20°C (68°F)based on THF |
| **Auto-ignition Temperature:** | 321°C (610°F) based on THF | **Vapor Density:** | >2 (Air = 1) |
| **Decomposition Temperature:** | Not Applicable | **Other Data: Viscosity:** | Medium bodied |
| **VOC Content:** | When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 490 g/l. | | |

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable

**Hazardous decomposition products:** None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

**Conditions to avoid:** Keep away from heat, sparks, open flame and other ignition sources.

**Incompatible Materials:** Oxidizers, strong acids and bases, amines, ammonia

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, Eye and Skin Contact

**Acute symptoms and effects:**

**Inhalation:** Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

**Eye Contact:** Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

**Skin Contact:** Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

**Ingestion:** May cause nausea, vomiting, diarrhea and mental sluggishness.

**Chronic (long-term) effects:** None known to humans

| ***Toxicity:*** | $LD_{50}$ | $LC_{50}$ |
|---|---|---|
| Tetrahydrofuran (THF) | Oral: 2842 mg/kg (rat) | Inhalation 3 hrs. 21,000 mg/m$^3$ (rat) |
| Methyl Ethyl Ketone (MEK) | Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) | Inhalation 8 hrs. 23,500 mg/m$^3$ (rat) |
| Cyclohexanone | Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit) | Inhalation 4 hrs. 8,000 PPM (rat) |

| Reproductive Effects | Teratogenicity | Mutagenicity | Embryotoxicity | Sensitization to Product | Synergistic Products |
|---|---|---|---|---|---|
| Not Established | Not Established | Not Established | Not Established | Not Established | Not Established |

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** None Known

**Mobility:** In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 490 g/l.

**Degradability:** Biodegradable

**Bioaccumulation:** Minimal to none.

## SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

## SECTION 14 - TRANSPORT INFORMATION

**Proper Shipping Name:** Adhesives
**Hazard Class:** 3
**Secondary Risk:** None
**Identification Number:** UN 1133
**Packing Group:** PG II
**Label Required:** Class 3 Flammable Liquid
**Marine Pollutant:** NO

| EXCEPTION for Ground Shipping |
|---|
| **DOT Limited Quantity:** Up to 5L per inner packaging, 30 kg gross weight per package. |
| **Consumer Commodity:** Depending on packaging, these quantities may qualify under DOT as "ORM-D" . |

| TDG INFORMATION | |
|---|---|
| TDG CLASS: | FLAMMABLE LIQUID 3 |
| SHIPPING NAME: | ADHESIVES |
| UN NUMBER/PACKING GROUP: | UN 1133, PG II |

## SECTION 15 - REGULATORY INFORMATION

**Precautionary Label Information:** Highly Flammable, Irritant
**Symbols:** F, Xi
**Risk Phrases:** R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

**Safety Phrases:** S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

## SECTION 16 - OTHER INFORMATION

**Specification Information:**
**Department issuing data sheet:** IPS, Safety Health & Environmental Affairs
**E-mail address:** <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

**Training necessary:** Yes, training in practices and procedures contained in product literature.
**Reissue date / reason for reissue:** 2/19/2010 / Modified GHS Standard Format
**Intended Use of Product:** Solvent cement for PVC / CPVC

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

# MATERIAL SAFETY DATA SHEET

**KST063300**
**16 00**

**DATE OF PREPARATION**
Apr 24, 2015

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
KST063300
**PRODUCT NAME**
KOOL SEAL® White Elastomeric Roof Coating
**MANUFACTURER'S NAME**
KST Coatings
A Business Unit of the Sherwin-Williams Co.
101 W. Prospect Avenue
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Product Information** | (888) 321-5665<br>www.koolseal.com |
| **Regulatory Information** | (216) 566-2902<br>www.paintdocs.com |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| **0.1** | **14808-60-7** | **Quartz** | | |
| | | ACGIH TLV | 0.025 mg/m3 as Resp. Dust | |
| | | OSHA PEL | 0.1 mg/m3 as Resp. Dust | |
| **4** | **13463-67-7** | **Titanium Dioxide** | | |
| | | ACGIH TLV | 10 mg/m3 as Dust | |
| | | OSHA PEL | 10 mg/m3 Total Dust | |
| | | OSHA PEL | 5 mg/m3 Respirable Fraction | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.
**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

**HMIS Codes**

| | |
|---|---|
| **Health** | 1* |
| **Flammability** | 0 |
| **Reactivity** | 0 |

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
None generally recognized.
**CANCER INFORMATION**
For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | FLAMMABILITY CLASSIFICATION |
|---|---|---|---|
| Not Applicable | Not Applicable | Not Applicable | Not Applicable |

**EXTINGUISHING MEDIA**

Carbon Dioxide, Dry Chemical, Alcohol Foam

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Applicable

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

Required for long or repeated contact.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 10.58 lb/gal | 1268 g/l |
| **SPECIFIC GRAVITY** | 1.27 | |
| **BOILING POINT** | 212 - 213 °F | 100 - 100 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 63% | |
| **EVAPORATION RATE** | Slower than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |
| **pH** | > 2.0, < 11.5 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

| | | |
|---|---|---|
| 0.17 lb/gal | 21 g/l | Less Water and Federally Exempt Solvents |
| 0.06 lb/gal | 7 g/l | Emitted VOC |

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**

Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| **14808-60-7** | **Quartz** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |
| **13463-67-7** | **Titanium Dioxide** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**

No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

**US Ground (DOT)**

Not Regulated for Transportation.

**DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities**

Carbendazim 10 lb RQ

**Canada (TDG)**

Not Regulated for Transportation.

**IMO**

Not Regulated for Transportation.

**IMO**

Not Regulated for Transportation.

**IATA/ICAO**

Not Regulated for Transportation.

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# Material Safety Data Sheet

**Plews Part# 11350, 11354, 11355, 11356, 11357, 11358, 11359, 11360 11395, 11484, 11487**

## 1. Product and company identification

**Material uses** : Industrial applications: Lubricants; grease. **White Lithium Grease**

**Distributor** : Plews & Edelmann
1550 Franklin Grove Road
Dixon, IL 61021
Tel: (800) 545-1696

**Product code** : LIW25500B0 ***MC2705 SL***

**MSDS #** : 1245

**Validation date** : 11/3/2014

**In case of emergency** : INFOTRAC
U.S. and Canada - 800.535.5053
Outside the U.S. and Canada - +1 352.323.3500

## 2. Hazards identification

**Emergency overview**

**Physical state** : Solid. [grease]

**Color** : White.

**Odor** : Mild. Petroleum oil

**Hazard statements** : MAY CAUSE EYE AND SKIN IRRITATION.

**Precautionary measures** : Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects**

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.

**Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

**Potential chronic health effects**

**Chronic effects** : Contains material that may cause target organ damage, based on animal data.

**Carcinogenicity** : No known significant effects or critical hazards.

## 2. Hazards identification

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Target organs** : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes.

**Over-exposure signs/symptoms**

**Inhalation** : No specific data.

**Ingestion** : No specific data.

**Skin** : Adverse symptoms may include the following:
irritation
redness

**Eyes** : Adverse symptoms may include the following:
irritation
watering
redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**See toxicological information (Section 11)**

## 3. Composition/information on ingredients

**United States**

| Name | CAS number | % |
|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method) | 64742-52-5 | 87-93 |
| Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991 | 1314-13-2 | 1-5 |
| Titanium dioxide | 13463-67-7 | 1-5 |

**Canada**

| Name | CAS number | % |
|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method) | 64742-52-5 | 87-93 |
| Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991 | 1314-13-2 | 1-5 |
| Titanium dioxide | 13463-67-7 | 1-5 |

**Mexico**

| | | | | | Classification | | | |
|---|---|---|---|---|---|---|---|---|
| Name | CAS number | UN number | % | IDLH | H | F | R | Special |
| | | | | | | | | |

## 3. Composition/information on ingredients

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method) | 64742-52-5 | Not available. | 87-93 | 2500 mg/m³ | 1 | 1 | 0 | - |
| Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991 | 1314-13-2 | Not available. | 1-5 | 500 mg/m³ | 1 | 0 | 0 | - |
| Titanium dioxide | 13463-67-7 | Not available. | 1-5 | 5000 mg/m³ | 1 | 0 | 0 | - |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

**Flammability of the product** : No specific fire or explosion hazard.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
metal oxide/oxides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up**

**Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

**United States**

| Ingredient | Exposure limits |
|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | **ACGIH TLV (United States, 6/2013).**<br>TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction<br>**NIOSH REL (United States, 4/2013).**<br>TWA: 5 mg/m³ 10 hours. Form: Mist<br>STEL: 10 mg/m³ 15 minutes. Form: Mist<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 5 mg/m³ 8 hours. |
| zinc oxide | **NIOSH REL (United States, 4/2013).**<br>CEIL: 15 mg/m³ Form: Dust<br>TWA: 5 mg/m³ 10 hours. Form: Dust and fumes<br>STEL: 10 mg/m³ 15 minutes. Form: Fume<br>**OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 5 mg/m³ 8 hours. Form: Fume |

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## 8. Exposure controls/personal protection

| | |
|---|---|
| | STEL: 10 mg/m³ 15 minutes. Form: Fume<br>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction<br>TWA: 10 mg/m³ 8 hours. Form: Total dust<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 5 mg/m³ 8 hours. Form: Fume<br>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction<br>TWA: 15 mg/m³ 8 hours. Form: Total dust<br>**ACGIH TLV (United States, 6/2013).**<br>TWA: 2 mg/m³ 8 hours. Form: Respirable fraction<br>STEL: 10 mg/m³ 15 minutes. Form: Respirable fraction |
| titanium dioxide | **ACGIH TLV (United States, 6/2013).**<br>TWA: 10 mg/m³ 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 10 mg/m³ 8 hours. Form: Total dust<br>**OSHA PEL (United States, 2/2013).**<br>TWA: 15 mg/m³ 8 hours. Form: Total dust |

### Canada

| Occupational exposure limits | | TWA (8 hours) | | | STEL (15 mins) | | | Ceiling | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ingredient** | **List name** | **ppm** | **mg/m³** | **Other** | **ppm** | **mg/m³** | **Other** | **ppm** | **mg/m³** | **Other** | **Notations** |
| zinc oxide | US ACGIH 6/2013 | - | 2 | - | - | 10 | - | - | - | - | [a] |
| | AB 4/2009 | - | 2 | - | - | 10 | - | - | - | - | [b] |
| | BC 7/2013 | - | 2 | - | - | 10 | - | - | - | - | [b] |
| | ON 1/2013 | - | 2 | - | - | 10 | - | - | - | - | [a] |
| | QC 12/2012 | - | 5 | - | - | 10 | - | - | - | - | [c] |
| Distillates (petroleum), hydrotreated heavy naphthenic | US ACGIH 6/2013 | - | 5 | - | - | - | - | - | - | - | [d] |
| | AB 4/2009 | - | 5 | - | - | 10 | - | - | - | - | [e] |
| | ON 1/2013 | - | 5 | - | - | 10 | - | - | - | - | [f] |
| | QC 12/2012 | - | 5 | - | - | 10 | - | - | - | - | [f] |
| titanium dioxide | US ACGIH 6/2013 | - | 10 | - | - | - | - | - | - | - | |
| | AB 4/2009 | - | 10 | - | - | - | - | - | - | - | [3] |
| | BC 7/2013 | - | 3 | - | - | - | - | - | - | - | [g] |
| | | - | 10 | - | - | - | - | - | - | - | [h] |
| | ON 1/2013 | - | 10 | - | - | - | - | - | - | - | |
| | QC 12/2012 | - | 10 | - | - | - | - | - | - | - | [i] |

[3]Skin sensitization
**Form:** [a]Respirable fraction [b]Respirable [c]fume [d]Inhalable fraction [e]Mist [f]mist [g]Respirable dust [h]Total dust [i] Total dust.

### Mexico

### Occupational exposure limits

| Ingredient | Exposure limits |
|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | **NOM-010-STPS (Mexico, 9/2000).**<br>LMPE-PPT: 5 mg/m³ 8 hours. Form: mist<br>LMPE-CT: 10 mg/m³ 15 minutes. Form: mist |
| zinc oxide | **NOM-010-STPS (Mexico, 9/2000).**<br>LMPE-PPT: 10 mg/m³ 8 hours. Form: powder<br>LMPE-PPT: 5 mg/m³ 8 hours. Form: smoke<br>LMPE-CT: 10 mg/m³ 15 minutes. Form: smoke |
| titanium dioxide | **NOM-010-STPS (Mexico, 9/2000).**<br>LMPE-PPT: 10 mg/m³, (as Ti) 8 hours.<br>LMPE-CT: 20 mg/m³, (as Ti) 15 minutes. |

## 8. Exposure controls/personal protection

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

**Physical state** : Solid. [grease]

**Flash point** : Not available.

**Auto-ignition temperature** : Not available.

**Flammable limits** : Not available.

**Color** : White.

**Odor** : Mild. Petroleum oil

**pH** : Not available.

**Boiling/condensation point** : Not available.

**Melting/freezing point** : Not available.

## 9. Physical and chemical properties

**Density** : 0.9 g/cm³

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Volatility** : Not available.

**Evaporation rate** : Not available.

**Viscosity** : Not available.

**Dispersibility properties** : Not available.

**Solubility** : Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

**Chemical stability** : The product is stable.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

**United States**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | LD50 Oral | Rat | >5000 mg/kg | - |

**Conclusion/Summary** : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

**Chronic toxicity**

**Conclusion/Summary** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| zinc oxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| titanium dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |

**Conclusion/Summary**

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.

**Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

## 11. Toxicological information

**Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

**Sensitizer**

**Conclusion/Summary**

**Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

**Respiratory** : Sensitization not suspected for humans.

**Carcinogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

**Classification**

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|---|---|---|---|---|---|---|
| zinc oxide | A4 | - | - | - | - | - |

**Mutagenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

**Teratogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

**Reproductive toxicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

**Canada**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | LD50 Oral | Rat | >5000 mg/kg | - |

**Conclusion/Summary** : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

**Chronic toxicity**

**Conclusion/Summary** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| zinc oxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| titanium dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |

**Conclusion/Summary**

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.

## 11. Toxicological information

**Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

**Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

**Conclusion/Summary**

**Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

**Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

**Classification**

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|---|---|---|---|---|---|---|
| zinc oxide | A4 | - | - | - | - | - |

### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

### Mexico

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated heavy naphthenic | LD50 Oral | Rat | >5000 mg/kg | - |

**Conclusion/Summary** : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

**Chronic toxicity**

**Conclusion/Summary** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

**Irritation/Corrosion**

| Product/ingredient name | Result | Score | Score | Exposure | Observation |
|---|---|---|---|---|---|
| zinc oxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| titanium dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |

## 11. Toxicological information

**Conclusion/Summary**

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.

**Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

**Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

**Sensitizer**

**Conclusion/Summary**

**Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

**Respiratory** : Sensitization not suspected for humans.

**Carcinogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

**Classification**

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|---|---|---|---|---|---|---|
| zinc oxide | A4 | - | - | - | - | - |

**Mutagenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

**Teratogenicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

**Reproductive toxicity**

**Conclusion/Summary** : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

## 12. Ecological information

**Ecotoxicity** : Not readily biodegradable.

**United States**

**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| zinc oxide | Acute EC50 0.042 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 98 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1.1 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 0.017 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| titanium dioxide | Acute EC50 5.83 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 3 mg/l Fresh water | Crustaceans - Ceriodaphnia | 48 hours |

## 12. Ecological information

| | | | |
|---|---|---|---|
| | | dubia - Neonate | |
| | Acute LC50 5.5 ppm Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 1000 mg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Chronic NOEC 0.984 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

**Canada**

**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| zinc oxide | Acute EC50 0.042 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 98 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1.1 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 0.017 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| titanium dioxide | Acute EC50 5.83 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 3 mg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 5.5 ppm Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 1000 mg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Chronic NOEC 0.984 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

**Mexico**

**Aquatic ecotoxicity**

## 12. Ecological information

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| zinc oxide | Acute EC50 0.042 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 98 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1.1 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 0.017 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| titanium dioxide | Acute EC50 5.83 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 3 mg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 5.5 ppm Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 1000 mg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Chronic NOEC 0.984 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

**MSDS # :** 1245

## 14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| Mexico Classification | Not regulated. | - | - | - | | - |
| ADR/RID Class | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |
| IATA-DGR Class | Not regulated. | - | - | - | | - |

PG* : Packing group

## 15. Regulatory information

**United States**

**HCS Classification** : Target organ effects

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**SARA 302/304**: No products were found.
**SARA 311/312 Hazards identification**: Delayed (chronic) health hazard

**Clean Water Act (CWA) 307**: zinc oxide; zinc bis(dipentyldithiocarbamate)

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 313**

| | | Product name | CAS number | Concentration |
|---|---|---|---|---|
| **Form R - Reporting requirements** | : | Zinc oxide<br>Lead - impurity in zinc | 1314-13-2<br>7439-92-1 | 1-5<br><0.0001 |
| **Supplier notification** | : | zinc oxide | 1314-13-2 | 1-5 |

**MSDS # :** 1245

## 15. Regulatory information

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**State regulations**

| | | |
|---|---|---|
| **Connecticut Carcinogen Reporting** | : | None of the components are listed. |
| **Connecticut Hazardous Material Survey** | : | None of the components are listed. |
| **Florida substances** | : | None of the components are listed. |
| **Illinois Chemical Safety Act** | : | None of the components are listed. |
| **Illinois Toxic Substances Disclosure to Employee Act** | : | None of the components are listed. |
| **Louisiana Reporting** | : | None of the components are listed. |
| **Louisiana Spill** | : | None of the components are listed. |
| **Massachusetts Spill** | : | None of the components are listed. |
| **Massachusetts Substances** | : | The following components are listed: ZINC OXIDE FUME; TITANIUM DIOXIDE |
| **Michigan Critical Material** | : | None of the components are listed. |
| **Minnesota Hazardous Substances** | : | None of the components are listed. |
| **New Jersey Spill** | : | None of the components are listed. |
| **New Jersey Toxic Catastrophe Prevention Act** | : | None of the components are listed. |
| **New Jersey Hazardous Substances** | : | The following components are listed: ZINC OXIDE; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2) |
| **New York Acutely Hazardous Substances** | : | None of the components are listed. |
| **New York Toxic Chemical Release Reporting** | : | None of the components are listed. |
| **Pennsylvania RTK Hazardous Substances** | : | The following components are listed: ZINC OXIDE (ZNO); TITANIUM OXIDE (TIO2) |
| **Rhode Island Hazardous Substances** | : | None of the components are listed. |

**California Prop. 65**

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|---|---|---|---|---|
| Lead - impurity in zinc | Yes. | Yes. | 15 µg/day (ingestion) | Yes. |
| Cadmium (Non-pyrophoric) - impurity in zinc | Yes. | Yes. | 0.05 µg/day (inhalation) | 4.1 µg/day (ingestion) |

| | | |
|---|---|---|
| **United States inventory (TSCA 8b)** | : | All components are listed or exempted. |

**Canada**

| | | |
|---|---|---|
| **WHMIS (Canada)** | : | Not controlled under WHMIS (Canada). |

**Canadian lists**

| | | |
|---|---|---|
| **Canadian NPRI** | : | The following components are listed: Zinc (and its compounds) |
| **CEPA Toxic substances** | : | None of the components are listed. |
| **Canada inventory; DSL/ NDSL** | : | All components are listed or exempted. |

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**Mexico**

**MSDS # :** 1245

## 15. Regulatory information

**Classification** :


**International regulations**

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.
**China inventory (IECSC)**: All components are listed or exempted.
**Japan inventory**: All components are listed or exempted.
**Korea inventory**: All components are listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
**Philippines inventory (PICCS)**: All components are listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.
**Europe inventory** : All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

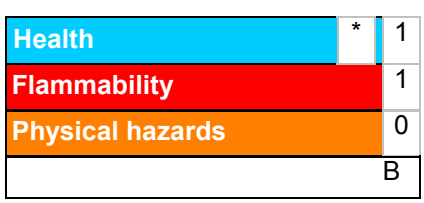
**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : MAY CAUSE EYE AND SKIN IRRITATION.

**Hazardous Material Information System (U.S.A.)** :




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)** :

**MSDS # :** 1245

## 16. Other information

**Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.**

**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

**Date of issue** : 11/3/2014

**Date of previous issue** : No previous validation.

**Version** : 1

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

***Material Safety Data Sheet***

according to ANSI Z400.1- 2004 and 29 CFR 1910.1200

# WINDEX® ORIGINAL GLASS CLEANER

Version *1.*2

Print Date 11/06/2015

Revision Date 08/28/2015

MSDS Number 350000014153

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product information**

| | | |
|---|---|---|
| Trade name | : | WINDEX® ORIGINAL GLASS CLEANER |
| Use of the Substance/Mixture | : | Hard Surface Cleaner |
| Company | : | S.C. Johnson and Son, Limited<br>1 Webster Street<br>Brantford ON N3T 5R1 |
| Emergency telephone number | : | 24 Hour Transport & Medical Emergency Phone (866) 231-5406<br>24 Hour International Emergency Phone (952) 852-4647<br>24 Hour Canadian Transport Emergency Phone (CANUTEC) (613) 996-6666 |

## 2. HAZARDS IDENTIFICATION

**Emergency Overview**

| | | |
|---|---|---|
| Appearance / Odor | : | blue / liquid / floral |
| **Immediate Concerns** | : | Avoid contact with skin, eyes and clothing. |

**Potential Health Effects**

| | | |
|---|---|---|
| Exposure routes | : | Eye, Skin, Inhalation, Ingestion. |
| Eyes | : | May cause:<br>Mild eye irritation |
| Skin | : | Prolonged or repeated contact may dry skin and cause irritation. |
| Inhalation | : | No adverse effects expected when used as directed. |
| Ingestion | : | May cause irritation to mouth, throat and stomach.<br>May cause abdominal discomfort. |
| Aggravated Medical Condition | : | Persons with pre-existing skin disorders may be more susceptible to irritating effects. |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not contain hazardous chemicals at or above a reportable level as defined by OSHA 29 CFR 1910.1200 or Canadian Controlled Products Regulations.

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

## 4. FIRST AID MEASURES

| | | |
|---|---|---|
| Eye contact | : | Rinse with plenty of water. Get medical attention if irritation develops and persists. |
| Skin contact | : | Rinse with plenty of water. Get medical attention if irritation develops and persists. |
| Inhalation | : | No special requirements |
| Ingestion | : | Rinse mouth with water. |

## 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Specific hazards during firefighting | : | Container may melt and leak in heat of fire. |
| Further information | : | Fight fire with normal precautions from a reasonable distance. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. |
| Flash point | : | Note: does not flash |
| Lower explosion limit | : | Note: Test not applicable for this product type |
| Upper explosion limit | : | Note: Test not applicable for this product type |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions | : | No special precautions required. |
| Environmental precautions | : | Outside of normal use, avoid release to the environment. |
| Methods for cleaning up | : | Soak up with inert absorbent material.<br>Sweep up and shovel into suitable containers for disposal.<br>Dike large spills.<br>Clean residue from spill site. |

## 7. HANDLING AND STORAGE

**Handling**

| | | |
|---|---|---|
| Advice on safe handling | : | Use only as directed.<br>KEEP OUT OF REACH OF CHILDREN AND PETS. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |

**Storage**

| | | |
|---|---|---|
| Requirements for storage areas and containers | : | Keep container closed when not in use.<br>Keep in a dry, cool and well-ventilated place. |
| Storage Stability | : | Stable under normal conditions. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Limits**

ACGIH or OSHA exposure limits have not been established for this product or reportable ingredients unless noted in the table above.
**Occupational Exposure Limits**

**Personal protective equipment**

| | | |
|---|---|---|
| ***Respiratory protection*** | | No personal respiratory protective equipment normally required. |
| ***Hand protection*** | : | No special requirements. |
| ***Eye protection*** | | No special requirements. |
| ***Skin and body protection*** | : | No special requirements. |
| **Hygiene measures** | : | Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Form | : | liquid |
| Color | : | blue |
| Odor | : | floral |

| | | |
|---|---|---|
| pH | : | 10.7<br>at 25 C |
| Melting point | : | Test not applicable for this product type |
| Boiling point | : | 100 C |
| Freezing point | : | 0 C |
| Flash point | : | does not flash |
| Evaporation rate | : | Test not applicable for this product type |
| Flammability (solid, gas) | : | Does not sustain combustion. |
| Auto-ignition temperature | : | Test not applicable for this product type |
| Lower explosion limit | : | Test not applicable for this product type |
| Upper explosion limit | : | Test not applicable for this product type |
| Vapour pressure | : | Calculated31.7 hPa |
| Density | : | 1.00 g/cm3<br>at 25 C |
| Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | Test not applicable for this product type |
| Viscosity, dynamic | : | similar to water |
| Viscosity, kinematic | : | similar to water |
| Relative vapour density | : | Test not applicable for this product type |
| Volatile Organic Compounds Total VOC (wt. %)* | : | 0.2 % - additional exemptions may apply<br>*as defined by US Federal and State Consumer Product Regulations |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Conditions to avoid | : | Direct sources of heat. |
| Materials to avoid | : | Strong oxidizing agents |
| Thermal decomposition | : | Note: Heating can release hazardous gases. |
| Hazardous reactions | : | If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated. |

## WINDEX® ORIGINAL GLASS CLEANER

Version *1.*2
Print Date 11/06/2015
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### 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50<br>estimated<br>> 5,000 mg/kg |
| Acute inhalation toxicity | : | LC50<br>estimated<br>> 2.58 mg/l |
| Acute dermal toxicity | : | LD50<br>estimated<br>> 5,000 mg/kg |

**Chronic effects**

| | | |
|---|---|---|
| Carcinogenicity | : | No data available |
| Mutagenicity | : | No data available |
| Reproductive effects | : | No data available |
| Teratogenicity | : | No data available |
| Sensitisation | : | Not known to be a sensitizer. |

### 12. ECOLOGICAL INFORMATION

| | | |
|---|---|---|
| **Ecotoxicity effects** | : | No data available |

### 13. DISPOSAL CONSIDERATIONS

Observe all applicable Federal, Provincial and State regulations and Local/Municipal ordinances regarding disposal.
Consumer may discard empty container in trash, or recycle where facilities exist.

## WINDEX® ORIGINAL GLASS CLEANER

Version *1.*2 Print Date 11/06/2015

Revision Date 08/28/2015 MSDS Number 350000014153

### 14. TRANSPORT INFORMATION

**Land transport**

- **U.S. DOT and Canadian TDG Surface Transportation:**

| | |
|---|---|
| Proper shipping name | not regulated |
| Class: | None. |
| UN/ID No.: | None. |
| Packaging group | None. |

**Sea transport**

- *IMDG:*

| | |
|---|---|
| Proper shipping name | not regulated |
| Class: | None. |
| UN/ID No.: | None. |
| Packaging group | None. |

**Air transport**

- *ICAO/IATA:*

| | |
|---|---|
| Proper shipping name | not regulated |
| Class: | None. |
| UN/ID No.: | None. |
| Packaging group | None. |

### 15. REGULATORY INFORMATION

| | | |
|---|---|---|
| Notification status | : | All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory. |
| Notification status | : | All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA). |
| California Prop. 65 | : | This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. |
| Canada Regulations | : | This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. |

### 16. OTHER INFORMATION

**HMIS Ratings**

| | |
|---|---|
| **Health** | 1 |

## WINDEX® ORIGINAL GLASS CLEANER

Version *1.*2
Revision Date 08/28/2015

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MSDS Number 350000014153

| | |
|---|---|
| **Flammability** | 2 |
| **Reactivity** | 0 |

**NFPA Ratings**

| | |
|---|---|
| **Health** | 1 |
| **Fire** | 2 |
| **Reactivity** | 0 |
| **Special** | - |

This information is being provided in accordance with Occupational Safety and Health Administration (OSHA) and Canada's Workplace Hazard Material Information System (WHMIS) regulations. The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information
This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

| | |
|---|---|
| Prepared by | SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA) |

# Material Safety Data Sheet

## XIM 400W White #1102

Complies with OSHA's Hazard Communications Standard 29CFR 1910.1200 and Data Sheet)

Quick Identifier, Common Name: (Used on Label

**SECTION 1: PRODUCT IDENTIFICATION**

**Manufacturer's Name:** XIM Products, Inc. **Date Prepared:** 4-04-00 **Prepared By:** J. Wolf
**Address:** 1169 Bassett Road **Updated:** 06-20-01
Westlake, Ohio 44145 **Product Class**: Modified Alkyd

**Emergency Calls:** **(800) 424-9300** **H.M.I.S. Health - 2**
**Information Calls:** **(440) 871-4737** **Flammability - 3**
**Reactivity - 0**

**SECTION 2: HAZARDOUS INGREDIENTS/IDENTITY**

| INGREDIENT | CAS NO. | OSHA PEL | | ACGIH TLV | |
|---|---|---|---|---|---|
| | | TWA | STEL | TWA | STEL |
| VM & P Naphtha | 64742-89-8 | 300 ppm | 400 ppm | 300 ppm | |
| Modified Alkyd Resins | Proprietary | | | | |
| Aluminum Silicate | 1332-58-7 | | | | |
| Magnesium Silicate | 14807-96-6 | | | | |
| Titanium Dioxide | 13463-67-7 | | | | |
| Calcium Carbonate | 1317-65-3 | | | | |

**This product contains pigments that may be nuisance dust in dry powder form or when this product is sanded.**

**Section 313 Notification per 40 CFR 372**

**DOT INFORMATION:** PAINT, FLAMMABLE LIQUID UN1263

**SECTION 3: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical Form:** Liquid **Appearance and Odor**: White color liquid, solvent odor
**Boiling Range:** 240 deg. F
**Vapor Density**: Heavier than air 3.8 (Air = 1)
**Evaporation Rate:** Slower than ether **Vapor Pressure**: 26 mm Hg @ 100 deg.F
**Weight per Gallon:** 9.32 lb/gal
**Solubility in Water:** Negligible
**VOC:** 495gm/l 4.13 lb/gal
**Percent Volatile :** 66.0% by Volume

**SECTION 4: FIRE AND EXPLOSION DATA**

**Flash Point:** 55 deg. F TCC (ASTM D-56)
**Flammability Limits:** LEL - - 1.0 %
**Extinguishing Media:** Dry Chemical, Carbon dioxide, Foam
**Flammability Class:** **DOT**: Flammable Liquid **OSHA :** Class 1B

**Special Fire Fighting Procedures:**
Wear protective equipment including NIOSH approved self-contained breathing apparatus. Isolate from heat, sparks, electrical equipment and open flame.

**Unusual Fire and Explosion Hazards:**
During a fire vapors may form an explosive mixture in air. Closed containers may explode when exposed to extreme heat. Solvent vapors may be heavier than air. Vapors may build up and travel along the ground to an ignition source which may result in a flash back to the source of the vapors. Cool fire exposed containers with water. Heavy build up on filters, rags, etc. Can trap solvents and result in spontaneous combustion.

**SECTION 5: HEALTH HAZARD DATA** **400W #1102**

**Routes of Entry:** Inhalation, Skin Contact, Eye Contact from Liquid and vapors, Ingestion.

**Effects of Overexposure:**

**Inhalation - ACUTE:** Irritation of the nose, throat and eyes. Asthma-like breathing may be a delayed reaction. Other possible symptoms of overexposure may include headache, nausea, narcosis, fatigue and loss of appetite.

**Inhalation - CHRONIC:** Chronic exposure to solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination.

**Eye Contact:** Liquid and vapors are irritating to the eyes and can cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However damage is usually reversible.

**Skin Contact:** Repeated or prolonged skin contact can result in dry, defatted and cracked skin causing increased susceptibility to infection.

**Ingestion:** Can result in irritation in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Vomiting may cause aspiration resulting in chemical pneumonitis.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Asthma, other respiratory disorders (bronchitis, etc.), skin allergies, eczema.

**EMERGENCY AND FIRST AID PROCEDURES:**

**Eyes:** Flush eyes with clean water for at least 15 minutes. Obtain medical attention.

**Skin:** Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water. Obtain medical attention if irritation develops or persists.

**Inhalation:** Remove from exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention.

**Ingestion:** DO NOT INDUCE VOMITING. Give 1-2 glasses of water to dilute. Consult a physician immediately.

**SECTION: 6: REACTIVITY DATA**

**Stability:** This material is stable. **Materials to avoid:** Strong Oxidizing agents

**Hazardous Polymerization:** Will not occur.

**Decomposition Products:** By high heat and fire: CO2, CO and other toxic vapors and mist.

**SECTION 7: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES**

**Precautions to be taken on handling and storage:** Keep from fire, sparks and open flame. Do not smoke. Keep container tightly closed. Wash thoroughly after handling.

**Other precautions:** Remove sources of ignition. Provide explosion proof ventilation and/or respiratory protection. Use non-sparking tools.

**Steps to be taken in case of spills:** Large spills may be picked up with nonsparking tools; small spills with absorbent material. Wash down area with liquid decontaminant and flush spill area with water.

**Waste Disposal Method:** If discarded this material and containers should be treated as a hazardous waste, based on the characteristics of ignitability as defined under Federal RCRA Regulations (40 CFR 261). Dispose of in accordance with local, state, and federal regulations. DO NOT INCINERSATE IN CLOSED CONTAINERS.

**For further information**, contact the United States Environmental Protection Agency RCRA hotline (800) 242-9342

**SECTION 8: SPECIAL PROTECTION/SAFE HANDLING INFORMATION**

**Special Sensitivity:** If the container is exposed to high heat, it can be pressurized and possibly rupture. This can cause sealed containers to expand and possibly rupture.

**Handling and Storage:** Keep away from heat, sparks and open flame. Ground container during storage and transfer operations. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Do not breath vapors. Employee education and training in safe handling of this product are required under OSHA Hazard Communication Standard.

**Respiratory Protection:** Use air-purifying respirator that the respirator supplier has demonstrated to be effective for solvent vapors. Where overspray is present, or if the concentration of solvents is not known or exceeds the level at which the air purifying respirator is effective, a positive pressure air-supplied respirator (TC19C NIOSH/MSHA) is recommended.

**Ventilation:** Designed and maintained to provide volume and pattern to prevent vapor concentration in excess of TLV or PEL

**Protective Gloves:** Neoprene, or Rubber gloves **Eye Protection:** Goggles or side-shield glasses

*NOTE:* **Read MSDS completely before use and follow all label instructions.**

TEMPO PROD CO/A PLASTI-KOTE CO INC -- 801, PROFESSIONAL CHOICE ZINC PRIMER YELLOW -- 8010-00N028638

```
==========  Product Identification  ==========

Product ID:801, PROFESSIONAL CHOICE ZINC PRIMER YELLOW
MSDS Date:09/04/1991
FSC:8010
NIIN:00N028638
MSDS Number: BNBHH
=== Responsible Party ===
Company Name:TEMPO PROD CO/A PLASTI-KOTE CO INC
Address:1000 LAKE RD
City:MEDINA
State:OH
ZIP:44258
Country:US
Info Phone Num:216-725-4511
Emergency Phone Num:216-725-4511
CAGE:IO250
=== Contractor Identification ===
Company Name:TEMPO PROD CO/A PLASTI-KOTE CO INC
Address:1000 LAKE RD
Box:City:MEDINA
State:OH
ZIP:44258
Country:US
Phone:216-725-4511
CAGE:IO250
Company Name:TEMPO PRODUCTS CO A PLASTI-KOTE CO INC
Address:1000 LAKE ROAD
Box:City:MEDINA
State:OH
ZIP:44256
Country:US
Phone:330-725-4511
CAGE:07708

==========  Composition/Information on Ingredients  ==========

Ingred Name:ACETONE. VP:186 @ 20C.
CAS:67-64-1
RTECS #:AL3150000
Fraction by Wt: 30-35%
OSHA PEL:1000PPM
ACGIH TLV:750PPM/1000STEL;9293
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:XYLENE. VP:5.1 @ 20C.
CAS:1330-20-7
RTECS #:ZE2100000
Fraction by Wt: 20-25%
OSHA PEL:100 PPM;150 PPM STEL
ACGIH TLV:100 PPM;150 PPM STEL
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:PROPANE-ISOBUTANE MIXTURE; (HYDROCARBON PROPELLANT). EVAP
    RATE:<1 (BUTYL ACETATE=1). FL PT:-100F.
CAS:68476-86-8
Fraction by Wt: 27%
OSHA PEL:1000 PPM (MFR)

==========  Hazards Identification  ==========

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation:YES  Skin:YES  Ingestion:YES
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Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE:INHAL:EXCESS INHAL OF VAPS CAN CAUSE NASAL & RESP IRRIT, DIZZ, WEAK, FATG, NAUS, HDCH, POSS UNCON & EVEN ASPHYX. EYE:CAN CAUSE SEV IRRIT, REDNESS, TEARING, BLURRED VISION. INGEST:CAN CAUSE GI IR RIT, NAUS, VOMIT, DIARR. SKIN:CAN CAUSEIRRIT FOR SOME PERSONS. CHRONIC:REPORTS HAVE ASSOC RPTD & PRLNG(EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT.
Effects of Overexposure:HLTH HAZ:OCCUP OVEREXP TO SOLVS W/PERM BRAIN & NERV SYS DMG. SEV OVEREXP IN LAB ANIMALS HAS ALSO CAUSED LIVER ABNORM & DMG TO KIDNEYS, LUNGS & SPLEEN, HEART & ADRENALS. INTENT MISUSE BY DELIB CONC & I NHAL CONTENTS MAY BE HARMFUL OR FATAL.
Medical Cond Aggravated by Exposure:CAN CAUSE ALLERGIC RESPIRATORY &/OR SKIN REACTION.

========== First Aid Measures ==========

First Aid:INHAL:REMOVE INDIVIDUAL TO FRESH AIR. IF BRTHG DFCLT, ADMIN O*2. IF BRTHG STOPPED, GIVE ARTF RESP & SEE MD. EYES:FLUSH W/H*2O FOR @ LST 15 MINS WHILE OCCAS HOLDING EYELIDS OPEN. GET MD. INGEST:DO NOT INDUCE VOMIT (ASPIR OF MATL INTO LUNGS CAN CAUSE CHEM PNEUM, WHICH CAN BE FATAL). KEEP PERS WARM, QUIET & GET MD/POIS CTL CTR. SKIN:WASH W/SOAP & H*2O/VARIOUS HAND CLEANERS & WASH CLTHG BEFORE REUSE.

========== Fire Fighting Measures ==========

Flash Point:0F,-18C
Lower Limits:1%
Extinguishing Media:"ALCOHOL" FOAM, CO*2, DRY CHEMICAL.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP . H*2O SPRAY MAY BE INEFT. H*2O MAY BE USED TO COOL CLSD CNTNRS TO PVNT PRESS BUILD-UP & POSS (SUPP DATA)
Unusual Fire/Explosion Hazard:CLSD CNTNRS MAY EXPLODE &/OR AUTOIGNITE WHEN EXPOSED TO EXTREME HEAT. VAPS ARE HVR/AIR & MAY TRAVEL ALONG GROUND/MAY BE MOVED BY VENT & IGNITED BY PILOT(SUPDAT)

========== Accidental Release Measures ==========

Spill Release Procedures:ELIMINATE ALL IGNITION SOURCES. VENTILATE AREA. ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL & TRANSFER TO CLOSED CONTAINER.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:DO NOT STORE IN AREAS ABOVE 120F OR IN DIRECT SUNLIGHT OR NEAR HEAT OR OPEN FLAMES. DO NOT PUNCTURE OR INCINERATE.
Other Precautions:STORE LARGE QUANTITIES IN BUILDINGS PROTECTED FOR STORAGE OF NFPA CLASS IC FLAMMABLE LIQUIDS.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:FOR CASUAL/OCCAS USE:TO AVOID BRTHG VAPS/SPRAY MIST, OPEN WINDOWS & DOORS/USE OTHER MEANS TO ENSURE FRESH AIR ENTRY DURING APPLICATN & DRYING. IF YOU EXPER EYE WATERING, HDCHS/DIZZ, INCR FRESH AIR, WE AR NIOSH/MSHA APPRVD RESP PROT (SUPDAT)
Ventilation:FOR REGULAR/CONTINUOUS USE:PROVIDE SUFFICIENT MECH (GENERAL) &/OR LOC EXHST VENT TO MAINTAIN EXPOS BELOW TLV'S.
Protective Gloves:CHEM RESISTANT GLOVES, SUCH AS NEOPRENE.
Eye Protection:CHEMICAL WORKERS GOGGLES .
Other Protective Equipment:WHERE SPECIAL OR UNUSUAL CONDITIONS EXIST THE EXPERT ASSISTANCE OF AN INDUSTRIAL HYGIENIST SHOULD BE SOUGHT.
Work Hygienic Practices:WASH HANDS BEFORE EATING OR USING WASHROOM. AS W/ALL CHEMICALS, MINIMIZE PERSONAL CONTACT & BREATHING OF VAPORS.
Supplemental Safety and Health
FIRE FIGHT PROC:AUTOIGNITION OR EXPLO WHEN EXPOSED TO EXTREME HEAT. IF

H*2O IS USED, FOG NOZZ PREF. EXPLO HAZ:LIGHTS, OTHER FLAMES, SPKS, HEATERS, SMOKING, ELEC MOTORS OR OTHER IGNIT SOURCES AT LOCATI ONS DISTANT FROM MATL HNDLG POINT. RESPPROT:(TC23C/EQUIV), OR LEAVE THE AREA.

========== Physical/Chemical Properties ==========

HCC:V3
Boiling Pt:B.P. Text:>133F,>56C
Melt/Freeze Pt:M.P/F.P Text:>1500F,>816
Vapor Pres:SEE INGS
Vapor Density:HVR/AIR
Spec Gravity:<1 (H*2O=1)
Evaporation Rate & Reference:>1 (BUTYL ACETATE=1)
Solubility in Water:SLIGHT TO MODERATE
Appearance and Odor:TYPICAL SOLVENT PAINT.
Percent Volatiles by Volume:85-90

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
AVOID CONTACT W/STRONG OXIDIZING AGENTS & HEAT.
Stability Condition to Avoid:HEAT, SPARKS & OPEN FLAME.
Hazardous Decomposition Products:MAY FORM TOXIC MATERIALS, CO*2, CO, VARIOUS HYDROCARBONS, NITROGEN COMPOUNDS, ETC, WHEN BURNED.

========== Disposal Considerations ==========

Waste Disposal Methods:MATERIAL COLLECTED ON ABSORBENT MATERIAL MAY BE DEPOSITED IN POSTED TOXIC SUBSTANCE LANDFILL I/A/W LOCAL, STATE & FEDERAL REGULATIONS.