The information contained in these Emseal-specific or Sika-specific Safety Data Sheets applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product’s current Product Data Sheet, product label and Safety Data Sheet for each Sika Emseal product, which are available at website and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.
1. Identification of the Substance / Preparation

Product identifier: SJS-FR

Other identifier or names: Seismic Joint System-Fire Rated, SJS-FR System

UN ID number: None

Manufacturer Address: EMSEAL LLC
111 Royal Group Crescent
Woodbridge, Ontario L4H 1X9 Canada

Company Phone: (508) 836-0280  M-F  9am - 5pm
Emergency Phone: CHEMTREC (800) 424-9300  (24 Hours)

2. Hazardous Indentification

Hazardous Classification: This product is not classified as hazardous when used as intended.

Signal Word: None

Pictograms: None

Emergency Overview: No emergency requirements.

3. Composition / Information on Ingredients

*SJS-FR foam is composed of polyurethane foam impregnated with a with a proprietary solid inorganic fire retardant bonded to a fully cured silicone sealant. The foam is adhered to a spline and is assembled with a metal coverplate. It is classified as Non-Hazardous.

NOTE: Silicone facing is fully cured. The composition of the silicone in its liquid state is comprised of the following:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>% by Weight</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polydimethyl Siloxane Diol</td>
<td>70131-67-8</td>
<td>0.0–60.0</td>
<td>SELF CLASSIFICATION Classification: Not Applicable</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>1317-65-3</td>
<td>10.0–40.0</td>
<td>SELF CLASSIFICATION Classification: Not Applicable</td>
</tr>
<tr>
<td>Synthetic Calcium Carbonate</td>
<td>371-34-1</td>
<td>1.0–5.0</td>
<td>Classification: STOT RE Cat. 2, Skin Sensitization Cat. 1, Aquatic, Chronic Toxicity Cat. 3 Hazard Statement Codes: H373, H317, H412</td>
</tr>
<tr>
<td>Phenyl Oximino Silane</td>
<td>34036-80-1</td>
<td>1.0–5.0</td>
<td>Classification: STOT RE Cat. 2, Skin Sensitization Cat. 1, Aquatic, Chronic Toxicity Cat. 3 Hazard Statement Codes: H373, H317, H412</td>
</tr>
<tr>
<td>Silicon Dioxide, Fumed</td>
<td>112945-52-5</td>
<td>1.0–5.0</td>
<td>SELF CLASSIFICATION Classification: Not Applicable</td>
</tr>
<tr>
<td>Mineral Spirits</td>
<td>8052-41-3</td>
<td>0.0-1.0</td>
<td>Classification: Carcinogenic Cat. 1B, Mutagenic Cat. 1B, Aspiration Hazard Cat. 1 Hazard Statement Codes: H350, H340, H304</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>Trace</td>
<td>SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350</td>
</tr>
<tr>
<td></td>
<td>14464-46-1</td>
<td></td>
<td>Classification: Not Applicable</td>
</tr>
</tbody>
</table>

Water and other components.
Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).

www.EMSEAL.com PAGE 1 OF 3
4. First Aid Measures

4.1 EYES: Flush with water for at least 15 minutes, and call physician if problems persist.
4.2 SKIN: Product may leave a sticky residue, and mild irritation if prolonged exposure. Scrub with soapy water until adhesive is removed.
4.3 INGESTION: Do not eat – call physician if ingested.

5. Fire-fighting Measures

5.2 FLAMMABILITY: Slight. The material composition does not support combustion.
5.2 FLASH POINT: Unknown.
5.3 AUTO-IGNITION TEMPERATURE: Unknown.
5.4 EXTINGUISHING MEDIA: Large volumes of water, or ABC chemical may be appropriate for initial control or small volumes of impregnated foam.
5.5 HAZARDOUS DECOMPOSITION PRODUCTS: Carbon di/mon oxides will be formed as well as other noxious and toxic fumes upon combustion – do not breath combustion products.

6. Accidental Release Measures

If material is unusable pick up pieces and dispose of in accordance with local regulations; material and all components are non-toxic and normal landfill will most often be acceptable.

7. Handling and Storage

Store in original packaging below 35°C. There are no special handling instructions.

8. Exposure Controls / Personal Protection

8.1 RESPIRATORY PROTECTION: Not required
8.2 EYE PROTECTION: Not required
8.3 SKIN PROTECTION: Gloves of any material are suitable if desired, but not required. No other protection is required.

9. Physical and Chemical Properties

9.1 APPEARANCE: Dark grey / charcoal colored foam and colored silicone with product identifying packaging.
9.2 ODOR: Slight characteristic odor.
9.3 PERCENT SOLIDS BY WEIGHT: 100%
9.4 PHYSICAL STATE: Solid
9.5 PERCENT VOLATILE: <1% wt/wt
9.6 DENSITY: 0.4g/cm3
9.7 DECOMPOSITION: > 300°C
9.8 SOLUBILITY IN WATER: None
10. Stability and Reactivity
Stable under normal conditions – avoid temperatures in excess of 300°C, strong acids and bases, and open flame.

11. Toxicological Information
Unknown.

12. Ecological Information
Unknown

13. Disposal Considerations
No known hazard. Dispose of in accordance with local regulations; material and all components are non-toxic and disposal in normal landfill will most often be acceptable.

14. Transportation Information
Not hazardous – safe for non-hazardous shipping.

15. Regulatory Information
Unknown.

16. Other Information
No other information provided.
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part A

1. Identification

Product name : Northern Manufacturing Construction Grade Epoxy Part A

Supplier : Northern Manufacturing
111 Royal Group Crescent, Unit NM
Woodbridge, ON L4H 1X9 Canada

Telephone : 416-740-2090 (8AM - 5PM EST) (M-F)
Emergency telephone : Chemtrec 1-800-424-9300 (24 Hours)

Recommended use of the chemical and restrictions on use : For further information, refer to product data sheet.

2. Hazards identification

GHS Classification
Skin irritation, Category 2 H315: Causes skin irritation.
Eye irritation, Category 2A H319: Causes serious eye irritation.
Skin sensitization, Category 1 H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1A (Inhalation) H350i: May cause cancer by inhalation.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 1, Lungs H372: Causes damage to organs through prolonged or repeated exposure.

GHS label elements
Hazard pictograms : 

Signal Word : Danger
Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H350i May cause cancer by inhalation.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.
Precautionary Statements:

**Prevention:**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/ eye protection/ face protection.
- P281 Use personal protective equipment as required.

**Response:**
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- 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.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.

**Storage:**
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

**Disposal:**
- P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

### 3. Composition/information on ingredients

#### Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>&gt;= 25 - &lt; 50 %</td>
</tr>
<tr>
<td>bisphenol-A-(epichlorhydrin) epoxy resin</td>
<td>25068-38-6</td>
<td>&gt;= 10 - &lt; 20 %</td>
</tr>
<tr>
<td>oxirane, mono(C12-14-alkyloxy)methyl</td>
<td>derivatives</td>
<td>68609-97-2</td>
</tr>
</tbody>
</table>

repeated exposure.
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 inhaled: Move to fresh air. Consult a physician after significant exposure.

In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.

In case of eye contact: Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed:

- Irritant effects
- Sensitizing effects
- Carcinogenic effects

Cough
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
See Section 11 for more detailed information on health effects and symptoms.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory irritation.
May cause cancer by inhalation.
Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders: Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.

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.

Specific extinguishing methods: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Deny access to unprotected persons.

Environmental precautions: Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling: Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products.

Conditions for safe storage: Prevent unauthorized access. Store in original container. Keep in a well-ventilated place. Observe label precautions. Store in accordance with local regulations.

Materials to avoid: No data available
8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis **</th>
<th>Value</th>
<th>Exposure limit(s)* / Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>10 mg/m³ / %SiO2+2 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>250 mppcf / %SiO2+5 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>TWA</td>
<td>0.1 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>0.05 mg/m³ Respirable dust</td>
</tr>
</tbody>
</table>

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminant (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

**Engineering measures**
Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Personal protective equipment**
Respiratory protection
Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part A

Hand protection
Remarks: 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.

Eye protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance: paste
Color: white
Odor: aromatic
Odor Threshold: No data available
Flash point: > 212 °F (> 100 °C)
Ignition temperature: No data available
Decomposition temperature: No data available
Lower explosion limit (Vol%): No data available
Upper explosion limit (Vol%): No data available
Flammability (solid, gas): No data available
Oxidizing properties: No data available
pH: Note: Not applicable
Melting point/range / Freezing point: No data available
Boiling point/boiling range: No data available
Vapor pressure: 0.01 mmHg (0.01 hpa)
Density: 1.99 g/cm3
Water solubility : Note: insoluble
Partition coefficient: n-octanol/water : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : > 20.5 mm²/s
Relative vapor density : No data available
Evaporation rate : No data available
Burning rate : No data available
Volatile organic compounds (VOC) content : 5 g/l A+B Combined

10. Stability and reactivity
Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : No data available
Incompatible materials : No data available

11. Toxicological information

Acute toxicity
Not classified based on available information.

Components:
bisphenol-A-(epichlorhydrin) epoxy resin:
Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
May cause respiratory irritation.

STOT-repeated exposure
Causes damage to organs (Lungs) through prolonged or repeated exposure.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity
Not classified based on available information.

Carcinogenicity
May cause cancer by inhalation.

IARC

<table>
<thead>
<tr>
<th>Group 1: Carcinogenic to humans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2) 14808-60-7</td>
</tr>
<tr>
<td>Group 2B: Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>titanium dioxide 13463-67-7</td>
</tr>
</tbody>
</table>

NTP

<table>
<thead>
<tr>
<th>Known to be human carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2) 14808-60-7</td>
</tr>
</tbody>
</table>

Titanium dioxide (13463-67-7)

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have seen shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung. However, tests with other laboratory animals such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that cause lung cancer. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

12. Ecological information

Other information
Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

| bisphenol-A-(epichlorhydrin) epoxy | 25068-38-6 | Toxicity to fish: LC50 |
13. Disposal considerations

Disposal methods

Waste from residues: 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.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods

IATA
Not dangerous goods

IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list: All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part A

Revision Date 12/05/2019
Print Date 12/05/2019

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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.

Clean Air Act
Ozone-Depletion Potential
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61). This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65
\[ \text{WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov} \]

16. Other information

HMIS Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader
Revision Date 12/05/2019

Material number: 577437
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part B

1. Identification

Product name : Northern Manufacturing Construction Grade Epoxy Part B

Supplier : Northern Manufacturing
111 Royal Group Crescent, Unit NM
Woodbridge, ON L4H 1X9 Canada

Telephone : 416-740-2090 (8AM - 5PM EST) (M-F)

Emergency telephone : Chemtrec 1-800-424-9300 (24 Hours)

Recommended use of the chemical and restrictions on use : For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Skin corrosion, Category 1B : H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1 : H318: Causes serious eye damage.
Skin sensitization, Category 1 : H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1A (Inhalation) : H350i: May cause cancer by inhalation.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system : H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 1, Lungs : H372: Causes damage to organs through prolonged or repeated exposure.

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H350i May cause cancer by inhalation.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.
Precautionary Statements:

**Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 Use personal protective equipment as required.

**Response:**
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P310 Immediately call a POISON CENTER/doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

**Storage:**
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

**Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning:

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

**Hazardous ingredients**
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part B

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>&gt;= 25 - &lt; 50 %</td>
</tr>
<tr>
<td>N’-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine</td>
<td>10563-29-8</td>
<td>&gt;= 3 - &lt; 5 %</td>
</tr>
<tr>
<td>m-phenylenebis(methylene)</td>
<td>1477-55-0</td>
<td>&gt;= 1 - &lt; 2 %</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>&gt;= 1 - &lt; 2 %</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>69-72-7</td>
<td>&gt;= 1 - &lt; 2 %</td>
</tr>
<tr>
<td>triethylenetetramine</td>
<td>112-24-3</td>
<td>&gt;= 0.1 - &lt; 1 %</td>
</tr>
</tbody>
</table>

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 inhaled: Move to fresh air. Consult a physician after significant exposure.

In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Keep eye wide open while rinsing.

If swallowed: Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed: Health injuries may be delayed. Corrosive effects, irritant effects, sensitizing effects, carcinogenic effects.

Cough
Respiratory disorder
Allergic reactions
Dermatitis

See Section 11 for more detailed information on health effects and symptoms.

May cause an allergic skin reaction. Causes serious eye damage.
May cause respiratory irritation. 
May cause cancer by inhalation. 
Causes damage to organs through prolonged or repeated exposure. 
Causes severe burns. 

Protection of first-aiders: 
Move out of dangerous area. 
Consult a physician. 
Show this material safety data sheet to the doctor in attendance. 

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. 

Specific extinguishing methods: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. 

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus. 

6. Accidental release measures 

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. 
Deny access to unprotected persons. 

Environmental precautions: Do not flush into surface water or sanitary sewer system. 
If the product contaminates rivers and lakes or drains inform respective authorities. 
Local authorities should be advised if significant spillages cannot be contained. 

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). 
Keep in suitable, closed containers for disposal. 

7. Handling and storage 

Advice on safe handling: Avoid exceeding the given occupational exposure limits (see section 8). 
Do not get in eyes, on skin, or on clothing. 
For personal protection see section 8. 
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products.

Conditions for safe storage:
- Prevent unauthorized access.
- Store in original container.
- Keep in a well-ventilated place.
- Observe label precautions.
- Store in accordance with local regulations.

Materials to avoid: No data available

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis **</th>
<th>Value</th>
<th>Exposure limit(s)* / Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>10 mg/m3 / %SiO2+2 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>250 mppcf / %SiO2+5 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>0.1 mg/m3 Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>TWA</td>
<td>0.025 mg/m3 Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.05 mg/m3 Respirable dust</td>
</tr>
<tr>
<td>m-phenylenebis(methylamine)</td>
<td>1477-55-0</td>
<td>ACGIH</td>
<td>C</td>
<td>0.1 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>C</td>
<td>0.1 mg/m3</td>
</tr>
</tbody>
</table>

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust
Engineering measures: Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment
Respiratory protection: Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks: 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.

Eye protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance: paste
Color: dark gray
Odor: amine-like
Odor Threshold: No data available
Flash point: > 212 °F (> 100 °C)
Ignition temperature: No data available
Decomposition temperature: No data available
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part B

Lower explosion limit (Vol%) : No data available
Upper explosion limit (Vol%) : No data available
Flammability (solid, gas) : No data available
Oxidizing properties : No data available
pH : Note: Not applicable
Melting point/range / Freezing point : No data available
Boiling point/boiling range : No data available
Vapor pressure : 0.01 mmHg (0.01 hpa)
Density : 2.01 g/cm³
Water solubility : Note: slightly soluble
Partition coefficient: n-octanol/water : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : > 20.5 mm²/s
Relative vapor density : No data available
Evaporation rate : No data available
Burning rate : No data available
Volatile organic compounds (VOC) content : 5 g/l A+B Combined

10. Stability and reactivity

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : No data available
Incompatible materials : No data available

11. Toxicological information

Acute toxicity
Not classified based on available information.

**Components:**

**m-phenylenebis(methylamine):**
- Acute oral toxicity: LD50 Oral (Rat): 930 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 1.34 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
- Acute dermal toxicity: LD50 Dermal (Rat): > 3,100 mg/kg

**Benzyl alcohol:**
- Acute oral toxicity: LD50 Oral (Rat): 1,620 mg/kg
- Acute inhalation toxicity: LC50 (Rat): > 4.178 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist

**Salicylic acid:**
- Acute oral toxicity: LD50 Oral (Rat): 891 mg/kg
- Acute dermal toxicity: LD50 Dermal (Rat): > 2,000 mg/kg

**Triethylenetetramine:**
- Acute oral toxicity: LD50 Oral (Rat): 1,716 mg/kg
- Acute dermal toxicity: LD50 Dermal (Rabbit): 1,465 mg/kg

**Skin corrosion/irritation**
Causes severe burns.

**Serious eye damage/eye irritation**
Causes serious eye damage.

**Respiratory or skin sensitization**
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**
Not classified based on available information.

**Reproductive toxicity**
Not classified based on available information.

**STOT-single exposure**
May cause respiratory irritation.

**STOT-repeated exposure**
Causes damage to organs (Lungs) through prolonged or repeated exposure.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part B

Revision Date 12/05/2019  Print Date 12/05/2019

Aspiration toxicity
Not classified based on available information.

Carcinogenicity
May cause cancer by inhalation.

IARC
Group 1: Carcinogenic to humans
Quartz (SiO2) 14808-60-7

NTP
Known to be human carcinogen
Quartz (SiO2) 14808-60-7

12. Ecological information

Other information
Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

m-phenylenebis(methylamine) 1477-55-0
Toxicity to fish:
LC50
Species: Oryzias latipes (Japanese medaka)
Dose: > 10 - 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50
Species: Daphnia magna (Water flea)
Dose: > 10 - 100 mg/l
Exposure time: 48 h

Benzyl alcohol 100-51-6
Toxicity to fish:
LC50
Species: Fish
Dose: > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50
Species: Daphnia magna (Water flea)
Dose: > 100 mg/l
Exposure time: 48 h

Triethylenetetramine 112-24-3
Toxicity to fish:
LC50
Species: Pimephales promelas (fathead minnow)
Dose: > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50
Species: Daphnia
Dose: 10 - 100 mg/l
Exposure time: 48 h

Toxicity to algae:
EC50
13. Disposal considerations

Disposal methods

Waste from residues: 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.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number 1760
Description of the goods Corrosive liquids, n.o.s.
(N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, m-phenylenebis(methylamine))

Class 8
Packing group III
Labels 8
Emergency Response 154
Guidebook Number

IATA

UN number 1760
Description of the goods Corrosive liquid, n.o.s.
(N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, m-phenylenebis(methylamine))

Class 8
Packing group III
Labels 8
Packing instruction (cargo aircraft) 856
Packing instruction (passenger aircraft) 852
Packing instruction (passenger aircraft) Y841

IMDG

UN number 1760
Description of the goods CORROSIVE LIQUID, N.O.S.
(N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, m-phenylenebis(methylamine))
Safety Data Sheet

Northern Manufacturing Construction Grade Epoxy Part B

Revision Date 12/05/2019
Print Date 12/05/2019

Class 8
Packing group III
Labels 8
EmS Number 1 F-A
EmS Number 2 S-B

Marine pollutant no

DOT: For Limited Quantity exceptions reference 49 CFR 173.154 (b)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list: All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards: Chronic Health Hazard
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 302: This material does not contain any components with a section 302 EHS TPQ.

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.

Clean Air Act
## Ozone-Depletion Potential
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

### California Prop 65
⚠️ **WARNING:** Cancer – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### 16. Other Information

<table>
<thead>
<tr>
<th>HMIS Classification</th>
<th>*</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Personal Protection</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Caution:** HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Revison Date 12/05/2019

Material number: 579211
Setting Bed A SAFETY DATA SHEET

Issuing Date 10-Sep-2015  
Revision Date 06-Nov-2015  
Revision Number 2

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier  
Product Name Expansion Joint Setting Bed A

Other means of identification  
Product Code(s) SETBED A  
Product Technology Epoxy A side

FOR INDUSTRIAL USE ONLY.  
Restrictions on use: Do not use this product for any use other than intended

Manufacturer Address  
Emseal Joint  
Systems, LTD  
25 Bridle Lane  
Westborough, MA 01581  
USA

Company Phone Number: 508-836-0280  
Emergency Telephone: Chemtrec 1-800-424-9300 (24 Hours)

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Emergency Overview

WARNING

Hazard statements
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction
Appearance  Opaque Grey  Physical state  Liquid  Odor  Mild

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves, protective clothing, eye protection, face protection
Avoid breathing dust, fumes, or vapors
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
Call a POISON CENTER or doctor/physician if you feel unwell
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
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information
Toxic to aquatic life with long lasting effects
5.00000532% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Family</th>
<th>Chemical nature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Epoxy A Side</td>
<td>Epoxy resin mixture.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>25068-38-6</td>
<td>70 - 100</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. First Aid Measures

Description of first aid measures

General advice
Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact  Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Inhalation  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion  Not an expected route of exposure. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

Self-protection of the first aider  First Aider: Pay attention to self-protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms  May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Note to physicians  Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media  Foam, Dry Chemical, Carbon Dioxide (CO2);

Unsuitable extinguishing media  Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

Hazardous combustion products  Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

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.

Other Information  Use personal protective equipment as required.

For Emergency Responders  Use personal protective equipment as required.

Environmental precautions

Environmental precautions  Do not allow into any sewer, on the ground or into any body of water. 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  Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling  Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions  Keep containers tightly closed in a cool, well-ventilated place. Store and handle away from heat, flames and oxidizing materials.

Incompatible materials  Acids; Bases; Strong oxidizing agents;

8. Exposure Controls/Personal Protection

Control parameters

Exposure Limits  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 controls  Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection  Splash Goggles. Avoid contact with eyes.

Skin and body protection  Wear protective gloves and protective clothing.

Respiratory protection  If exposure limits are exceeded or 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.

General hygiene considerations  Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Opaque</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Grey</td>
<td>Odor Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>&gt; 250 °C</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 220 °C</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
Relative density 1.18
Water solubility Negligible
Solubility in other solvents N/A
Partition coefficient N/A
Autoignition temperature N/A
Decomposition temperature N/A
Kinematic viscosity N/A
Dynamic viscosity N/A
Explosive properties Not an explosive
Oxidizing properties N/A

Other Information
Softening point N/A
Molecular weight N/A
VOC Content (%) N/A
Liquid Density 9.84 pounds/gallon
Bulk density N/A

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
Incompatible materials
Acids; Bases; Strong oxidizing agents;
Hazardous decomposition products
Carbon oxides; Nitrogen oxides (NOx). Aldehydes. Aromatic hydrocarbons. May emit toxic fumes under fire conditions.

11. Toxicological Information

Information on likely routes of exposure
Product Information The product has not been tested.
Inhalation Remove to fresh air.
Eye contact Vapor may cause irritation. Avoid contact with eyes. Contact with eyes may cause irritation.
Skin contact Avoid contact with skin. May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Component Information Not an expected route of exposure. Do NOT taste or swallow. May be harmful if swallowed.
Caution - This preparation contains a substance not yet fully tested

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ATEmix (oral)</th>
<th>ATEmix (dermal)</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A diglycidyl ether resin 25068-38-6</td>
<td>11400 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects
N/A.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Skin corrosion/irritation | Irritating to skin. Repeated or prolonged contact may cause skin irritation and dermatitis.
---|---
Serious eye damage/eye irritation | Irritating to eyes.
Irritation | Irritating to eyes and skin.
Sensitization | May cause sensitization by skin contact.
Germ cell mutagenicity | N/A.
Carcinogenicity | This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity | N/A.
STOT - single exposure | N/A.
STOT - repeated exposure | N/A.
Chronic Toxicity | Repeated skin contact may lead to irritation and to sensitization, possible with cross-sensitization to other epoxies.
Target organ effects | Eyes, Skin.
Aspiration hazard | N/A.

**Numerical measures of toxicity - Product Information**

Unknown acute toxicity | 5.00000532% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (oral) | 12,030.00 mg/kg mg/l

**12. Ecological Information**

Ecotoxicity
N/A
5.23999 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability
N/A

Other adverse effects
N/A
Ozone depletion potential (ODP) | N/A

**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.

**14. Transport Information**

Note: | A197 - Not restricted provided that the net quantity in any receptacle does not exceed 5 Kg or 5 L and the packaging meets defined standards.
DOT | Not regulated
ICAO (air) | 
IATA
UN/ID no. | UN3082
Proper shipping name | Environmentally Hazardous substance Liquid N.O.S. (Bisphenol A epoxy resin)
Hazard Class | 9
Packing Group | III
IMDG

<table>
<thead>
<tr>
<th>UN/ID no.</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Environmentally Hazardous Substance Liquid N.O.S. (Bisphenol A epoxy resin)</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO</td>
</tr>
</tbody>
</table>

15. Regulatory Information

International Inventories

TSCA

All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

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: Yes
- Fire Hazard: No
- 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

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state’s listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide - 13463-67-7</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Carbon Black - 1333-86-4</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Glycidyl phenyl ether - 122-60-1</td>
<td>Carcinogen Male Reproductive</td>
</tr>
<tr>
<td>Epichlorohydrin - 106-89-8</td>
<td>Carcinogen Male Reproductive</td>
</tr>
<tr>
<td>Silicon dioxide - 14808-60-7</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>
U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number  Not applicable

16. Other Information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2*</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Chronic Hazard Star Legend

* = Chronic Health Hazard

Prepared By  Compliance
Issuing Date  10-Sep-2015
Revision Date  06-Nov-2015

N/A

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
1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier
Product Name
Expansion Joint Setting Bed B

Other means of identification
Product Code(s) SETBED B
Product Technology Epoxy B side

Restrictions on use: Do not use this product for any use other than intended

Manufacturer Address
Emseal Joint Systems, LTD
25 Bridle Ln
Westborough, MA 01581,
USA

Company Phone Number  508-836-0280
Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)

2. Hazards Identification

Classification
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1 Sub-category B</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Emergency Overview

DANGER

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Harmful if inhaled
Harmful if swallowed
Appearance Clear Light yellow Physical state Liquid Odor Mild amine odor

Precautionary Statements - Prevention
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
Do not breathe dust, fumes, or vapors
Wear protective gloves, protective clothing, eye protection, face protection
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
Immediately 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
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
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
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information
Toxic to aquatic life with long lasting effects
72% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Family</th>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy B Side</td>
<td></td>
<td>m-Xylylenediamine</td>
<td>1477-55-0</td>
<td>15 - 30</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,4,7,10,13-Pentaazatridecane</td>
<td>112-57-2</td>
<td>1 - 10</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. First Aid Measures
General advice
Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.

Skin contact
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, 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 breathing is irregular or stopped, administer artificial respiration. Administer oxygen if breathing is difficult. If symptoms persist, call a physician.

Ingestion
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

Self-protection of the first aider
First Aider: Pay attention to self-protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed
Symptoms
May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media
Foam, Dry Chemical, Carbon Dioxide (CO2);

Unsuitable extinguishing media
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

Hazardous combustion products
Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

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.

Other Information
Use personal protective equipment as required.
For Emergency Responders
Use personal protective equipment as required.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. 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
Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for safe handling
Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities
Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials
Acids; Bases; Strong oxidizing agents;

8. Exposure Controls/Personal Protection

Control parameters
Exposure Limits
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Xylylenediamine 1477-55-0</td>
<td>S* Ceiling: 0.1 mg/m^3</td>
<td>(vacated) S* Ceiling: 0.1 mg/m^3</td>
<td>Ceiling: 0.1 mg/m^3</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Engineering controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment
Eye/face protection
Splash Goggles. Avoid contact with eyes.
Skin and body protection
Wear protective gloves and protective clothing.
Respiratory protection
If exposure limits are exceeded or 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.
General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Appearance</th>
<th>Odor</th>
<th>Odor threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Clear</td>
<td>Mild amine odor</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Light yellow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 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**


**Incompatible materials**

Acids; Bases; Strong oxidizing agents;

**Hazardous decomposition products**

Carbon oxides; Nitrogen oxides (NOx). Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

### 11. Toxicological Information

#### Information on likely routes of exposure

**Product Information**

The product has not been tested.

**Inhalation**

Remove to fresh air. Harmful by inhalation.

**Eye contact**

Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness.

**Skin contact**

Avoid contact with skin. Repeated or prolonged skin contact may cause allergic reactions
Ingestion

Component Information

Not an expected route of exposure. Do NOT taste or swallow. Harmful if swallowed. Caution - This preparation contains a substance not yet fully tested.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ATEmix (oral)</th>
<th>ATEmix (dermal)</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Xylylenediamine 1477-55-0</td>
<td>1040 mg/kg (Rat)</td>
<td>2 g/kg (Rabbit)</td>
<td>= 2.4 mg/kg (Rat) 4 h</td>
</tr>
<tr>
<td>1,4,7,10,13-Pentaazatridecane 112-57-2</td>
<td>3990 mg/kg (Rat)</td>
<td>660 µL/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

N/A.

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

Skin corrosion/irritation

Irritating to skin. Repeated or prolonged contact may cause skin irritation and dermatitis. Causes burns.

Serious eye damage/eye irritation

Irritating to eyes. Risk of serious damage to eyes.

Irritation

Irritating to eyes and skin.

Corrosivity

Corrosive to living tissue.

Sensitization

May cause sensitization by skin contact.

Germ cell mutagenicity

N/A.

Carcinogenicity

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity

N/A.

STOT - single exposure

N/A.

STOT - repeated exposure

N/A.

Chronic Toxicity

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

Target organ effects

Eyes, Skin.

Aspiration hazard

N/A.

Numerical measures of toxicity - Product Information

Unknown acute toxicity

72% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (oral)</td>
<td>618.00 mg/kg</td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>1,702.00 mg/kg</td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>0.64 mg/l</td>
</tr>
<tr>
<td>ATEmix (inhalation-vapor)</td>
<td>445.00 mg/l</td>
</tr>
</tbody>
</table>

12. Ecological Information

Ecotoxicity

N/A

94 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4,7,10,13-Pentaazatridecane 112-57-2</td>
<td>2.1: 72 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>420: 96 h Poecilia reticulata mg/L LC50 static</td>
<td>24.1: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence and degradability

N/A

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4,7,10,13-Pentaazatridecane 112-57-2</td>
<td>1</td>
</tr>
</tbody>
</table>

Other adverse effects

N/A

Ozone depletion potential (ODP) N/A
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.

14. Transport Information

DOT  Not regulated

ICAO (air)  Not regulated

IATA  Not regulated

IMDG  Not regulated

15. Regulatory Information

International Inventories

TSCA  All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:
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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

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

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Xylylenediamine 1477-55-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1,4,7,10,13-Pentaazatridecane 112-57-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number  Not applicable

16. Other Information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By  Compliance
Issuing Date  10-Sep-2015
Revision Date  06-Nov-2015

Revision Note

N/A

Disclaimer

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End of Safety Data Sheet
1. IDENTIFICATION

Chemical Name or Synonym:
Crystalline Silica (Quartz), Sand, Silica Sand, Flint, Ground Silica, Fine Ground Silica, Silica Flour.

THIS PRODUCT IS A COMPONENT OF THE EMCRETE SYSTEM. IT HAS BEEN SOURCED FROM AN OEM. IT IS NOT INTENDED FOR ANY USE HERETIN OTHER THAN ITS EMCRETE APPLICATION. CONTENT IN THIS SHEET IS PROVIDED BY AND VERIFIED BY THE OEM SOURCE.

Product Identifier

Product name: Crystalline Sand (Quartz)
Other Means of Identification: Crystalline Sand (Quartz)
Product Code: Crystalline Sand (Quartz)

FOR INDUSTRIAL USE ONLY. This product contains isocyanates.
Restrictions on use: Do not use this product for any use other than intended

Manufacturer Address
EMSEAL Joint Systems, Ltd.
25 Bridle Lane, Westborough, MA 01581 USA

Company Phone Number: 508-836-0280 (9AM - 5PM EST) (M-F)
Emergency Telephone: Chemtrec 1-800-424-9300 (24 Hours)

2. HAZARD(S) IDENTIFICATION

Classification:

<table>
<thead>
<tr>
<th>Physical</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Hazardous</td>
<td>Carcinogen Category 1A</td>
</tr>
<tr>
<td></td>
<td>Specific Target Organ Toxicity – Repeated Exposure Category 1</td>
</tr>
</tbody>
</table>

DANGER
May cause cancer by inhalation.
Causes damage to lungs through prolonged or repeated exposure by inhalation.

Response:
If exposed or concerned: Get medical advice.

Disposal:
Dispose of contents/containers in accordance with local regulation.

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Do not eat, drink or smoke when using this product.
Wear protective gloves and safety glasses or goggles.
In case of inadequate ventilation wear respiratory protection.
3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (quartz)</td>
<td>14808-60-7</td>
<td>95-99.9</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

**Inhalation:** First aid is not generally required. If irritation develops from breathing dust, move the person from the overexposure and seek medical attention if needed.

**Skin contact:** First aid is not required.

**Eye contact:** Wash immediately with plenty of water. Do not rub eyes. If irritation persists, seek medical attention.

**Ingestion:** First aid is not required.

**Most important symptoms/effects, acute and delayed:** Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath. Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer.

**Indication of immediate medical attention and special treatment, if necessary:** Immediate medical attention is not required.

5. FIRE-FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:** Use extinguishing media appropriate for surrounding fire.

**Specific hazards arising from the chemical:** Product is not flammable, combustible or explosive.

**Special protective equipment and precautions for fire-fighters:** None required.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.

**Environmental precautions:** No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations.

**Methods and materials for containment and cleaning up:** Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping. Dispose of in closed containers.

7. HANDLING AND STORAGE

**Precautions for safe handling:**
Avoid generating dust. Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Use adequate exhaust
ventilation and dust collection to reduce respirable crystalline silica dust levels to below the permissible exposure limit ("PEL"). Maintain and test ventilation and dust collection equipment. Use all available work practices to control dust exposures, such as water sprays. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Keep airborne dust concentrations below permissible exposure limits.

Where necessary to reduce exposures below the PEL or other applicable limit (if lower than the PEL), wear a respirator approved for silica containing dust when using, handling, storing or disposing of this product or bag. See Section 8, for further information on respirators. Do not alter the respirator. Do not wear a tight-fitting respirator with facial hair such as a beard or mustache that prevents a good face to face piece seal between the respirator and face. Maintain, clean, and fit test respirators in accordance with applicable standards. Wash or vacuum clothing that has become dusty.

Participate in training, exposure monitoring, and health surveillance programs to monitor any potential adverse health effects that may be caused by breathing respirable crystalline silica. The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.

**Conditions for safe storage, including any incompatibilities:** Use dust collection to trap dust produced during loading and unloading. Keep containers closed and store bags to avoid accidental tearing, breaking, or bursting.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure guidelines:

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>NIOSH REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (quartz)</td>
<td>10 mg/m³</td>
<td>0.025 mg/m³ TWA (respirable dust)</td>
<td>0.05 mg/m³ TWA (respirable dust)</td>
</tr>
<tr>
<td></td>
<td>%SiO₂ + 2 TWA (respirable dust)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>%SiO₂ + 2 TWA (total dust)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If crystalline silica (quartz) is heated to more than 870°C, quartz can change to a form of crystalline silica known as tridymite; if crystalline silica (quartz) is heated to more than 1470°C, quartz can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite or cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

**Appropriate engineering controls:** Use adequate general or local exhaust ventilation to maintain concentrations in the workplace below the applicable exposure limits listed above.

**Respiratory protection:** If it is not possible to reduce airborne exposure levels to below the OSHA PEL or other applicable limit with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, “Particulate Respirators”. The full document can be found at [www.cdc.gov/niosh/nptl/topics/respirators](http://www.cdc.gov/niosh/nptl/topics/respirators); the user of this MSDS is directed to that site for information concerning respirator selection and use. The assigned protection factor (APF) is the maximum anticipated level
of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m³, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m³. In using chemical cartridges, consideration must be given to selection of the correct cartridge for the chemical exposure and the maximum use concentration for the cartridge. In addition, a cartridge change-out schedule must be developed based on the concentrations in the workplace.

<table>
<thead>
<tr>
<th>Assigned protection factor</th>
<th>Type of Respirator (Use only NIOSH-certified respirators)</th>
</tr>
</thead>
</table>
| 10                         | Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. ² ³
|                            | Appropriate filtering facepiece respirator. ² ³        |
|                            | Any air-purifying full facepiece respirator equipped with appropriate type of particulate filter. ² ³ |
|                            | Any negative pressure (demand) supplied-air respirator equipped with a half-mask. |
| 25                         | Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter. |
|                            | Any continuous flow supplied-air respirator equipped with a hood or helmet. |
| 50                         | Any air-purifying full facepiece respirator equipped with N-100, R-100, or P-100 filter(s). |
|                            | Any powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and a high-efficiency filter. |
|                            | Any negative pressure (demand) supplied-air respirator equipped with a full facepiece. |
|                            | Any continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece). |
|                            | Any negative pressure (demand) self-contained respirator equipped with a full facepiece. |
| 1,000                      | Pressure-demand supplied-air respirator equipped with a half-mask. |

1. The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR 1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers.
2. Appropriate means that the filter medium will provide protection against the particulate in question.
3. An APF of 10 can only be achieved if the respirator is quantitatively or qualitatively fit tested on individual workers.

Skin protection: Maintain good industrial hygiene. Protection recommended for workers suffering from dermatitis or sensitive skin.

Eye protection: Safety glasses with side shields or goggles recommended if eye contact is anticipated.

Other: None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): White or tan sand: granular, crushed or ground to a powder.

Odor: None.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>3110°F/1710°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammable limits: LEL</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.65</td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>4046°F/2230°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>UEL</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in water</td>
</tr>
</tbody>
</table>
Partition coefficient: n-octanol/water: Not applicable  Auto-ignition temperature: Not determined
Decomposition temperature: Not determined  Viscosity: Not applicable
Flammability (solid, gas): Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions of use.
Chemical stability: Stable
Possibility of hazardous reactions: Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.
Conditions to avoid: Avoid generation of dust in handling and use.
Incompatible materials: Powerful oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride and hydrofluoric acid.
Hazardous decomposition products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride.

11. TOXICOLOGICAL INFORMATION

Acute effects of exposure:
Inhalation: Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.
Ingestion: Ingestion in an unlikely route of exposure. If dust is swallowed, it may irritate the mouth and throat.
Skin contact: No adverse effects are expected.
Eye contact: Particulates may cause abrasive injury.

Chronic effects: Prolonged inhalation of respirable crystalline silica may cause lung disease, silicosis, lung cancer and other effects as indicated below.

The method of exposure that can lead to the adverse health effects described below is inhalation.

A. SILICOSIS
Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute:

Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years (10 to 20 or more) of prolonged repeated inhalation of relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Complicated silicosis or PMF symptoms, if present, are shortness of breath and cough. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pumonale).

Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except
that lung lesions appear earlier and progression is more rapid.

Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness and weight loss. Acute silicosis is fatal.

B. CANCER
IARC - The International Agency for Research on Cancer ("IARC") concluded that “crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)”. For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts" (2011).

NTP classifies “Silica, Crystalline (respirable size)” as Known to be a human carcinogen.

C. AUTOIMMUNE DISEASES
Several studies have reported excess cases of several autoimmune disorders — scleroderma, systemic lupus erythematosus, rheumatoid arthritis — among silica-exposed workers.

D. TUBERCULOSIS
Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.

E. KIDNEY DISEASE
Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

F. NON-MALIGNANT RESPIRATORY DISEASES
The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

Sources of information:
The NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The NIOSH Hazard Review is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link “NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica”.

For a more recent review of the health effects of respirable crystalline silica, the reader may consult Fishman’s Pulmonary Diseases and Disorders, Fourth Edition, Chapter 57. “Coal Workers’ Lung Diseases and Silicosis”.

Finally, the US Occupational Safety and Health Administration (OSHA) published a summary of respirable crystalline silica health effects in connection with OSHA’s Proposed Rule regarding occupational exposure to
respirable crystalline silica. The summary was published in the September 12, 2013 Federal Register, which can be found at www.federalregister.gov/articles/2013/09/12/2013-20997/occupational-exposure-to-respirable-crystalline-silica.

Numerical measures of toxicity:
Crystalline Silica (quartz): LD50 oral rat >22,500 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity: Crystalline silica (quartz) is not known to be ecotoxic.
Persistence and degradability: Silica is not degradable.
Bioaccumulative potential: Silica is not bioaccumulative.
Mobility in soil: Silica is not mobile in soil.
Other adverse effects: No data available

13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in full compliance with national regulations.

14. TRANSPORT INFORMATION

UN number: None
UN proper shipping name: Not regulated
Transport hazard classes(es): None
Packing group, if applicable: None
Environmental hazards: None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not determined
Special precautions: None known.

15. REGULATORY INFORMATION

UNITED STATES (FEDERAL AND STATE)

TSCA Status: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.

RCRA: This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): This product contains the following chemicals subject to SARA 302 or SARA 313 reporting: None above the de minimus concentrations.

Clean Air Act: Crystalline silica (quartz) mined and processed is not processed with or does not contain any Class I or Class II ozone depleting substances.
FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

California Proposition 65: Crystalline silica (airborne particles of respirable size) is classified as a substance known to the State of California to be a carcinogen.

California Inhalation Reference Exposure Level (REL): California established a chronic non-cancer effect REL of 3 μg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no non-cancer health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is “toxic” for purposes of the Massachusetts Toxic Use Reduction Act.

Pennsylvania Worker and Community Right to Know Act: Quartz is a hazardous substance under the Act, but it is not a special hazardous substance or an environmental hazardous substance.

Texas Commission on Environmental Quality: The Texas CEQ has established chronic and acute Reference Values and short term and long term Effects Screening Levels for crystalline silica (quartz). The information can be accessed through www.tceq.texas.gov.

CANADA

Domestic Substances List: U. S. Silica Company products, as naturally occurring substances, are on the Canadian DSL.

WHMIS Classification: D2A

OTHER NATIONAL INVENTORIES

Australian Inventory of Chemical Substances (AICS): All of the components of this product are listed on the AICS inventory or exempt from notification requirements.

China: Silica is listed on the IECSC inventory or exempt from notification requirements.

Japan Ministry of International Trade and Industry (MITI): All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law Registry Number 1-548.

Korea Existing Chemicals Inventory (KECI) (set up under the Toxic Chemical Control Law): Listed on the ECL with registry number 9212-5667.

New Zealand: Silica is listed on the HSNO inventory or exempt from notification requirements.

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed for PICCS.

Taiwan: Silica is listed on the CSNN inventory or exempt from notification requirements.
16. OTHER INFORMATION

Date of preparation/revision: February 10, 2015

Hazardous Material Information System (HMIS):
- Health *
- Flammability 0
- Physical Hazard 0
- Protective Equipment E
* For further information on health effects, see Sections 2, 8 and 11 of this MSDS.

National Fire Protection Association (NFPA):
- Health 0
- Flammability 0
- Instability 0

Web Sites with Information about Effects of Crystalline Silica Exposure:

The U.S. National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) maintain sites with information about crystalline silica and its potential health effects. For NIOSH, http://www.cdc.gov/niosh/topics/silica; for OSHA, http://www.osha.gov/dsg/topics/silicacrystalline/index.

The IARC Monograph that includes crystalline silica, Volume 100C, can be accessed in PDF form at the IARC web site, http://monographs.iarc.fr/ENG/Monographs/PDFs/index.php.

Company Disclaimer
The information and recommendations contained herein are based upon data believed to be up to date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our silica. Customers and users of silica must comply with all applicable health and safety laws, regulations, and orders. In particular, they are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures in accordance with the national implementation legislation of EU Directives 89/391 and 98/24.
SECTION 1: Identification

1.1. Product identifier
3M Brand Fire Barrier CP-25WB+

Product Identification Numbers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>98-0400-5573-7</td>
<td>98-0400-5610-7</td>
<td>98-0400-5629-7</td>
<td>DE-2729-4483-1</td>
<td>DE-2729-4484-9</td>
<td></td>
</tr>
<tr>
<td>JE-4100-2482-0</td>
<td>JE-4900-0628-3</td>
<td>JE-4900-0629-1</td>
<td>JE-4900-0630-9</td>
<td>JE-4900-0741-4</td>
<td></td>
</tr>
<tr>
<td>JE-6000-0304-8</td>
<td>JN-3301-2827-1</td>
<td>KA-0000-0150-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.2. Recommended use and restrictions on use

Recommended use
Fire Protection, Used as Firestop in buildings.

1.3. Supplier’s details

Company: 3M Canada Company
Division: Industrial Adhesives and Tapes Division
Address: 1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1
Telephone: (800) 364-3577
Website: www.3M.ca

1.4. Emergency telephone number
Medical Emergency Telephone: (519) 451-2500, Ext. 2222; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2B.

2.2. Label elements

Signal word
Warning

Symbols
Not applicable.

**Pictograms**
Not applicable.

**Hazard statements**
Causes eye irritation.

**Precautionary statements**

**General:**
Keep out of reach of children. Read label before use. If medical advice is needed, have product container or label at hand.

**Prevention:**
Wash thoroughly after handling.

**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.

**2.3. Other hazards**
None known.

### SECTION 3: Composition/information on ingredients

This material is a mixture.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>1344-09-8</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Zinc Borate 2335</td>
<td>138265-88-0</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Polymer</td>
<td>Trade Secret</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Ethylhexyldiphenyl Phosphate</td>
<td>1241-94-7</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>1309-37-1</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>65997-17-3</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>25322-68-3</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Di-2-ethylhexylphenyl phosphate</td>
<td>16368-97-1</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td>Polyoxyethylene monoctylphenyl ether</td>
<td>9036-19-5</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Triphenyl Phosphate</td>
<td>115-86-6</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>55965-84-9</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Polymer is a non-hazardous Trade Secret material according to WHMIS criteria. Sodium Silicate is a hazardous Trade Secret material according to WHMIS criteria. Refer to Section 15 for further information.

### 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.
**3M Brand Fire Barrier CP-25WB+**

**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**
Non-combustible. Use a fire-fighting agent suitable for surrounding fire.

5.2. **Special hazards arising from the substance or mixture**
None inherent in this product.

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 vapours, 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.

6.3. **Methods and material for containment and cleaning up**
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

**SECTION 7: Handling and storage**

7.1. **Precautions for safe handling**
Avoid eye contact. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. **Conditions for safe storage including any incompatibilities**
Keep cool. Store away from heat. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

**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.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphenyl Phosphate</td>
<td>115-86-6</td>
<td>ACGIH</td>
<td>TWA: 3 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>1309-37-1</td>
<td>ACGIH</td>
<td>TWA (respirable fraction): 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>25322-68-3</td>
<td>AIHA</td>
<td>TWA (as particulate): 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>65997-17-3</td>
<td>Manufacturer determined</td>
<td>TWA (as dust): 10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH: American Conference of Governmental Industrial Hygienists  
AIHA: American Industrial Hygiene Association  
CMRG: Chemical Manufacturer's Recommended Guidelines  
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/vapours/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

- **Physical state**: Solid
**Specific Physical Form:** Paste  
**Appearance/Odour** Red with negligible odour  
**Odour threshold** No Data Available  
**Melting point/Freezing point** No Data Available  
**Flash Point** No flash point  
**Flammability (solid, gas)** Not Classified  
**flammable Limits(LEL)** Not Applicable  
**flammable Limits(UEL)** Not Applicable  
**Relative density** 1.35 [Ref Std: WATER=1]  
**Water solubility** Complete  
**Solubility- non-water** No Data Available  
**Autoignition temperature** Not Applicable  
**Decomposition temperature** No Data Available  
**Molecular weight** No Data Available  
**Volatile Organic Compounds** <=0.5 % weight [Test Method: tested per EPA method 24]  
**VOC Less H2O & Exempt Solvents** <=6 g/l [Test Method: tested per EPA method 24]

### 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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Oxides of Phosphorus</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

### 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:**  
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.

**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

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Dermal</td>
<td>No data available; calculated ATE &gt;5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td>No data available; calculated ATE2,000 - 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Polymer</td>
<td>Dermal</td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Zinc Borate 2335</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 4,640 mg/kg</td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 500 mg/kg</td>
</tr>
<tr>
<td>Ethylhexyldiphenyl Phosphate</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 7,940 mg/kg</td>
</tr>
<tr>
<td>Ethylhexyldiphenyl Phosphate</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 24,000 mg/kg</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>Dermal</td>
<td>Not available</td>
<td>LD50 3,100 mg/kg</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>Ingestion</td>
<td>Not available</td>
<td>LD50 3,700 mg/kg</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 32,770 mg/kg</td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 estimated to be 2,000 - 5,000 mg/kg</td>
</tr>
<tr>
<td>Polyoxystyrene monoctylphenyl ether</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 20,000 mg/kg</td>
</tr>
<tr>
<td>Polyoxystyrene monoctylphenyl ether</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 500 mg/kg</td>
</tr>
<tr>
<td>Triphenyl Phosphate</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 7,900 mg/kg</td>
</tr>
<tr>
<td>Triphenyl Phosphate</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 3,000 mg/kg</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 87 mg/kg</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LC50 0.33 mg/l</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 40 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer</td>
<td>Rabbit</td>
<td>Minimal irritation</td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>Rabbit</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>
### 3M Brand Fire Barrier CP-25WB+

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Oxide</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Rabbit</td>
<td>Minimal irritation</td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>Professio nal judgement</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Rabbit</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

#### Serious Eye Damage/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>Mouse</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>Human</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Human and animal</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

#### Skin Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>Mouse</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>Human</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Human and animal</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

#### Photosensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Human and animal</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

#### Respiratory Sensitization

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

#### Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Oxide Glass Chemicals</td>
<td>In Vitro</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl- , mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>In Vitro</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

#### Carcinogenicity
### Reproductive Toxicity

**Reproductive and/or Developmental Effects**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>Ingestion</td>
<td>Some positive developmental data exist, but the data are not sufficient for classification</td>
<td>Mouse</td>
<td>NOAEL 200 mg/kg/day during gestation</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Not toxic to female reproduction</td>
<td>Rat</td>
<td>NOAEL 1,125 mg/kg/day during gestation</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Not toxic to male reproduction</td>
<td>Rat</td>
<td>NOAEL 5699 +/- 1,341 mg/kg/day 5 days</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Not Specified</td>
<td>Some positive reproductive/developmental data exist, but the data are not sufficient for classification</td>
<td></td>
<td>NOEL N/A</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Not toxic to female reproduction</td>
<td>Rat</td>
<td>NOAEL 10 mg/kg/day 2 generation</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Not toxic to male reproduction</td>
<td>Rat</td>
<td>NOAEL 10 mg/kg/day 2 generation</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Ingestion</td>
<td>Not toxic to development</td>
<td>Rat</td>
<td>NOAEL 15 mg/kg/day during organogenesis</td>
<td></td>
</tr>
</tbody>
</table>

**Specific Target Organ Toxicity - single exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>May cause respiratory irritation</td>
<td>official classification</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>NOAEL 1,008 mg/l 2 weeks</td>
<td></td>
</tr>
<tr>
<td>3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>similar health hazards</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
</tbody>
</table>

**Specific Target Organ Toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Silicate</td>
<td>Ingestion</td>
<td>kidney and/or bladder</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Dog</td>
<td>LOAEL 2,400 mg/kg/day 4 weeks</td>
<td></td>
</tr>
<tr>
<td>Sodium Silicate</td>
<td>Ingestion</td>
<td>endocrine system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>NOAEL 804 mg/kg/day 3 months</td>
<td></td>
</tr>
</tbody>
</table>
### Sodium Silicate

- **Ingestion** blood
- **Data** All are negative
- **Species** Rat
- **NOAEL** 804 mg/kg/day
- **Route** 3 months

- **Ingestion** heart | liver
- **Data** All are negative
- **Species** Rat
- **NOAEL** 1,259 mg/kg/day
- **Route** 8 weeks

### Iron Oxide

- **Inhalation** pulmonary fibrosis | pneumoconiosis
- **Data** Some positive data exist, but the data are not sufficient for classification
- **Species** Human
- **NOAEL** Not available
- **Route** occupational exposure

### Polyethylene Glycol

- **Inhalation** respiratory system
- **Data** Some positive data exist, but the data are not sufficient for classification
- **Species** Rat
- **NOAEL** 1,008 mg/l
- **Route** 2 weeks

- **Ingestion** kidney and/or bladder
- **Data** Some positive data exist, but the data are not sufficient for classification
- **Species** Rat
- **NOAEL** 5,640 mg/kg/day
- **Route** 13 weeks

- **Ingestion** heart | endocrine system | hematopoietic system | liver | nervous system
- **Data** All are negative
- **Species** Rat
- **NOAEL** 5,640 mg/kg/day
- **Route** 13 weeks

### Oxide Glass Chemicals

- **Inhalation** respiratory system
- **Data** Some positive data exist, but the data are not sufficient for classification
- **Species** Human
- **NOAEL** not available
- **Route** 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

No data available.

### SECTION 13: Disposal considerations

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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

**Global inventory status**
Contact 3M for more information. 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 material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

**Trade Secret Information:**
HMIRA Registry Number: Filing date: Claim status: Date of decision:
TBD Claim for exemption has been filed.

**SECTION 16: Other information**

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.

Health: 1  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.

**HMIS Hazard Classification**

Health: 2  Flammability: 1  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).

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF PERFORMANCE, COURSE OF DEALING, CUSTOM 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.

3M Canada SDSs are available at www.3M.ca
1. Identification

Product name : Sikasil® WS-295

Supplier : Sika Corporation

201 Polito Avenue
Lyndhurst, NJ 07071
USA
www.sikausa.com

Telephone : (201) 933-8800

Telefax : (201) 804-1076

E-mail address : ehs@sika-corp.com

Emergency telephone : CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Recommended use of the chemical and restrictions on use

2. Hazards identification

GHS Classification

Flammable liquids, Category 4 H227: Combustible liquid.
Eye irritation, Category 2A H319: Causes serious eye irritation.
Skin sensitization, Category 1 H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2 H361f: Suspected of damaging fertility.
Specific target organ systemic toxicity - repeated exposure, Category 2 (Oral) H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements :
H227 Combustible liquid.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary Statements :
Prevention:
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.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment for extinction.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Hazardous ingredients</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-butanone-O.O',O''-(phenylsilylidene)trioxime</td>
<td>34036-80-1</td>
<td>&gt;= 2 - &lt; 5 %</td>
</tr>
<tr>
<td></td>
<td>butan-2-one-O,O',O''-(methylsilylidene)trioxime</td>
<td>22984-54-9</td>
<td>&gt;= 1 - &lt; 2 %</td>
</tr>
<tr>
<td></td>
<td>N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine</td>
<td>35141-30-1</td>
<td>&gt;= 1 - &lt; 2 %</td>
</tr>
<tr>
<td></td>
<td>octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>&lt; 1 %</td>
</tr>
</tbody>
</table>

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 inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects

Allergic reactions
Excessive lachrymation
See Section 11 for more detailed information on health effects and symptoms.

May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of damaging fertility.
May cause damage to organs through prolonged or repeated exposure if swallowed.

Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Notes to physician : Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media : Carbon dioxide (CO2)

Unsuitable extinguishing media : Water

Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
6. Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**: Use personal protective equipment. Deny access to unprotected persons.

- **Environmental precautions**: Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

- **Methods and materials for containment and cleaning up**: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

---

7. Handling and storage

- **Advice on safe handling**: Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products.

- **Conditions for safe storage**: Store in original container. Keep in a well-ventilated place. Observe label precautions. Store in accordance with local regulations.

- **Materials to avoid**: No data available

---

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis **</th>
<th>Value</th>
<th>Exposure limit(s)* / Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium carbonate</td>
<td>471-34-1</td>
<td>CAL PEL</td>
<td>PEL</td>
<td>10 mg/m³ Total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAL PEL</td>
<td>PEL</td>
<td>5 mg/m³ respirable dust fraction</td>
</tr>
</tbody>
</table>
*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminant (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

**Engineering measures**
Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

**Personal protective equipment**

**Respiratory protection**
Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

**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.

**Remarks**

**Eye protection**
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

**Skin and body protection**
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

**Hygiene measures**
Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.
### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>paste</td>
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<td>Color</td>
<td>various</td>
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<tr>
<td>Odor</td>
<td>mild musty</td>
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<tr>
<td>Odor Threshold</td>
<td>No data available</td>
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<tr>
<td>Flash point</td>
<td>185 °F (85 °C)</td>
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<tr>
<td>Ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
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<tr>
<td>Lower explosion limit (Vol%)</td>
<td>No data available</td>
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<tr>
<td>Upper explosion limit (Vol%)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Note: Not applicable</td>
</tr>
<tr>
<td>Melting point/range / Freezing point</td>
<td>No data available</td>
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<tr>
<td>Boiling point/boiling range</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
<td>Density</td>
<td>ca. 1.12 g/cm³ at 73 °F (23 °C)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Note: insoluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>&gt; 20.5 mm²/s at 104 °F (40 °C)</td>
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<tr>
<td>Relative vapor density</td>
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<tr>
<td>Evaporation rate</td>
<td>No data available</td>
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<tr>
<td>Burning rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Volatile organic compounds (VOC) content</td>
<td>37 g/l</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : Extremes of temperature and direct sunlight.
Incompatible materials : No data available

11. Toxicological information

Acute toxicity
Not classified based on available information.

Ingredients:
N-(2-aminoethyl)-N’-[3-(trimethoxysilyl)propyl]ethylenediamine:
Acute oral toxicity : LD50 Oral (Rat): 7,758 mg/kg
Acute dermal toxicity : LD50 Dermal (Rat): 16,640 mg/kg

Octamethylcyclotetrasiloxane:
Acute inhalation toxicity : LC50 (Rat): 36 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Reproductive toxicity
Suspected of damaging fertility.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure if swallowed.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity
Not classified based on available information.
Carcinogenicity

Not classified based on available information.

IARC

Group 2B: Possibly carcinogenic to humans

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
</tr>
</tbody>
</table>

NTP

Carbon black (1333-86-4)

Animal Toxicity:

Rat, oral, duration 2 year
Effect: no tumors

Mouse, oral, duration 2 years
Effect: no tumors

Mouse, dermal, duration 18 months
Effect: no skin tumors

Rat, inhalation, duration 2 years
Target organ: lungs
Effect: inflammation, fibrosis, tumors

Note: Tumors in the rat lung are considered to be related to the "particle overload phenomenon" rather than to a specific chemical effect of carbon black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles and appear to be rat specific. Tumors have not been observed in other species (i.e., mouse and hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions.

Mortality studies (human data): A study on carbon black production workers in the UK (Sorahan, 2001) found an increased risk of lung cancer in two of the five plants studied; however, the increase was not related to the dose of carbon black. Thus, the authors did not consider the increased risk in lung cancer to be due to carbon black exposure. A German study of carbon black workers at one plant (Morfeld, 2006; Buechte, 2006) found a similar increase in lung cancer risk but, like the Sorohan, 2001 (UK study) found no association with carbon black exposure. A large US study of 18 plants showed a reduction in lung cancer risk in carbon black production workers (DEll, 2006). Based upon these studies, the February 2006 Working Group at the International Agency for Research on Cancer (IARC) concluded that the human evidence for carcinogenicity was inadequate (IARC, 2010).

Since the IARC evaluation of carbon black, Sorahan and Harrington (2007) have re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with carbon black exposure in two of the five plants. The same exposure hypothesis was applied by Morfeld and Mcunney (2009) to the German cohort; in contrast, they found no association between carbon black exposure and lung cancer risk and, thus, no support for the alternative exposure hypothesis used by Sorahan and Harrington.

Overall, as a result of these detailed investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated.

IARC Cancer Classification: In 2006 IARC re-affirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is "sufficient evidence" in experimental animal studies for the carcinogenicity of carbon black. IARC's overall evaluation is that carbon black is "possibly carcinogenic to humans" (Group 2B). This conclusion was based on IARC's
guidelines, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).

Solvent extracts of carbon black were used in one study of rats in which skin tumors were found after dermal application and several studies of mice in which sarcomas were found following subcutaneous injection. IARC concluded that there was "sufficient evidence" that carbon black extracts can cause cancer in animals (Group 2B).

ICGIH CANCER CLASSIFICATION: Confirmed Animal Carcinogen with Unknown Relevance to Humans (Category A3 Carcinogen).

ASSESSMENT: Applying the guidelines of self-classification under the Globally Harmonized System of Classification and Labeling of Chemicals, carbon black is not classified as a carcinogen. Lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rats tumors are a result of a secondary non-genotoxic mechanism that has questionable relevance for classification in humans. In support of this opinion, the CLP Guidance for Specific Target Organ Toxicity - Repeated Exposure (STOT-RE), cites lung overload under mechanisms not relevant to humans. Human health studies show that exposure to carbon black does not increase the risk to carcinogenicity.

Titanium dioxide (13463-67-7)

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung. However, tests with other laboratory animals such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that cause lung cancer. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

12. Ecological information

Other information

Do not empty into drains; dispose of this material and its container in a safe way.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods

Waste from residues

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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods

IATA
Not dangerous goods

IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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.

Clean Air Act
Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader
The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 01/26/2017
Material number: 481215
1. Identification

Product name : Sika AnchorFix®-2 Part A

Supplier : Sika Corporation

Address : 201 Polito Avenue
          Lyndhurst, NJ 07071
          USA
          www.sikausa.com

Telephone : (201) 933-8800

Telefax : (201) 804-1076

Emergency telephone : CHEMTREC: 800-424-9300
                       INTERNATIONAL: 703-527-3887
                       ehs@sika-corp.com

Recommended use of the chemical and restrictions on use : For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification
Skin sensitization , Category 1
Carcinogenicity , Category 2
Specific target organ systemic toxicity - repeated exposure , Category 1, Lungs (Inhalation)

H317: May cause an allergic skin reaction.
H351: Suspected of causing cancer.
H372: Causes damage to organs through prolonged or repeated exposure if inhaled.

GHS Label element
Hazard pictograms : ❄️ ⚠️

Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
                   H351 Suspected of causing cancer.
                   H372 Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : Prevention:
                           P201 Obtain special instructions before use.
                           P202 Do not handle until all safety precautions have been read and understood.
                           P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
                           P264 Wash skin thoroughly after handling.
                           P270 Do not eat, drink or smoke when using this product.
                           P272 Contaminated work clothing must not be allowed out of

...
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Hazardous ingredients</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO₂)</td>
<td>14808-60-7</td>
<td>&gt;= 50 - &lt;= 100 %</td>
</tr>
<tr>
<td>2,2′-ethylenedioxydiethyl dimethacrylate</td>
<td>109-16-0</td>
<td>&gt;= 20 - &lt; 25 %</td>
</tr>
<tr>
<td>Quartz (SiO₂) &lt;5µm</td>
<td>14808-60-7</td>
<td>&gt;= 20 - &lt; 25 %</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>13463-67-7</td>
<td>&lt; 1 %</td>
</tr>
</tbody>
</table>

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 inhaled**: Move to fresh air. Consult a physician after significant exposure.
- **In case of skin contact**: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
- **In case of eye contact**: Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- **If swallowed**: Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed: sensitizing effects

Allergic reactions
See Section 11 for more detailed information on health effects and symptoms.

May cause an allergic skin reaction.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders: Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

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.

Specific extinguishing methods: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Deny access to unprotected persons.

Environmental precautions: Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling: Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing. For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage:
- Store in original container.
- Keep container tightly closed in a dry and well-ventilated place.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Observe label precautions.
- Store in accordance with local regulations.

Materials to avoid:
- No data available

### 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis **</th>
<th>Value</th>
<th>Exposure limit(s)* / Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>30 mg/m³ / %SiO2+2 total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>10 mg/m³ / %SiO2+2 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>250 mppcf / %SiO2+5 respirable</td>
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<tr>
<td></td>
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<td>OSHA P0</td>
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<td>OSHA P0</td>
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<td>0.1 mg/m³ respirable dust fraction</td>
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<td></td>
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<td>0.025 mg/m³ Respirable fraction</td>
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<td>OSHA Z-3 TWA</td>
<td>ACGIH TWA</td>
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<td>Quartz (SiO₂) &lt;5µm</td>
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<td>OSHA Z-3 TWA</td>
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<tr>
<td></td>
<td>30 mg/m³ / %SiO₂+2 total dust</td>
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<td></td>
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<td>250 mppcf / %SiO₂+5 respirable</td>
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<td></td>
<td></td>
<td>OSHA P0 TWA</td>
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<tr>
<td></td>
<td>0.1 mg/m³ Respirable fraction</td>
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<tr>
<td>titanium dioxide</td>
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<td>OSHA P0 TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13463-67-7</td>
<td>10 mg/m³ Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-1 TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 mg/m³ total dust</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>OSHA P0 TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 mg/m³ Total dust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

**Engineering measures**
Use of adequate ventilation should be sufficient to control
worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Personal protective equipment**

**Respiratory protection**

Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

**Hand protection**

Remarks: 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.

**Eye protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

**Skin and body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

**Hygiene measures**

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and immediately after handling the product.

Remove contaminated clothing and protective equipment before entering eating areas.

Wash thoroughly after handling.

---

**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>viscous liquid</td>
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<tr>
<td>Color</td>
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<td>Odor</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Flash point</td>
<td>&gt; 302 °F (&gt; 150 °C)</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit (Vol%)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Upper explosion limit (Vol%) : No data available
Flammability (solid, gas) : No data available
Oxidizing properties : No data available
Autoignition temperature : No data available
pH : No data available
Melting point/range / Freezing point : No data available
Boiling point/boiling range : No data available
Vapor pressure : No data available
Density : ca.1.65 g/cm3
Water solubility : Note: insoluble
Partition coefficient: n-octanol/water : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : > 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density : No data available
Evaporation rate : No data available
Burning rate : No data available
Volatile organic compounds (VOC) content : 43 g/l A +B Combined

10. Stability and reactivity
Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : No data available
Incompatible materials : No data available

11. Toxicological information
Not classified based on available information.
Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitization
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Suspected of causing cancer.

IARC
Group 2B: Possibly carcinogenic to humans
- titanium dioxide 13463-67-7
  Group 1: Carcinogenic to humans
- Quartz (SiO2) 14808-60-7
- Quartz (SiO2) <5µm 14808-60-7

NTP
Known to be human carcinogen
- Quartz (SiO2) 14808-60-7
- Quartz (SiO2) <5µm 14808-60-7

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity
Not classified based on available information.

12. Ecological information

Other information
Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods
Waste from residues: 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods

IATA
Not dangerous goods

IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
                      Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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.

Clean Air Act
Ozone-Depletion Potential

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65

WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

<table>
<thead>
<tr>
<th></th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>* 3</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>X</td>
</tr>
</tbody>
</table>

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation (“Sika”) product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 04/29/2015

Material number: 417890
1. Identification

Product name : Sika AnchorFix®-2 Part B
Supplier : Sika Corporation
Address : 201 Polito Avenue
         Lyndhurst, NJ 07071
         USA
         www.sikausa.com
Telephone : (201) 933-8800
Telefax : (201) 804-1076
Emergency telephone : CHEMTREC: 800-424-9300
                      INTERNATIONAL: 703-527-3887
                      ehs@sika-corp.com
Recommended use of the chemical and restrictions on use : For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification
Eye irritation, Category 2A H319: Causes serious eye irritation.
Skin sensitization, Category 1 H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1A H350: May cause cancer.

GHS Label element
Hazard pictograms : 
Signal Word : Danger
Hazard Statements : H317 May cause an allergic skin reaction.
                   H319 Causes serious eye irritation.
                   H350 May cause cancer.
Precautionary Statements : Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read
    and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of
    the workplace.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P333 + P313 IF skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 IF eye irritation persists: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms. There are no hazards not otherwise classified that have been identified during the classification process. There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (SiO2)</td>
<td>14808-60-7</td>
<td>&gt;= 25 - &lt; 50 %</td>
</tr>
<tr>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td>&gt;= 10 - &lt; 20 %</td>
</tr>
<tr>
<td>Quartz (SiO2) &lt;5µm</td>
<td>14808-60-7</td>
<td>&lt; 1 %</td>
</tr>
</tbody>
</table>

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 inhaled : Move to fresh air. Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician.
Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:
- Allergic reactions
- Excessive lachrymation
- See Section 11 for more detailed information on health effects and symptoms.
- Irritant effects
- Sensitizing effects
- Carcinogenic effects

May cause an allergic skin reaction. Causes serious eye irritation. May cause cancer.

Protection of first-aiders:
- Move out of dangerous area.
- Consult a physician.
- Show this material safety data sheet to the doctor in attendance.

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.

Specific extinguishing methods:
- Use water spray to cool unopened containers.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters:
In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Use personal protective equipment.
- Deny access to unprotected persons.

Environmental precautions:
- Do not flush into surface water or sanitary sewer system.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up:
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
- Keep in suitable, closed containers for disposal.
7. Handling and storage

Advice on safe handling:
- Do not breathe vapors or spray mist.
- Avoid exceeding the given occupational exposure limits (see section 8).
- Do not get in eyes, on skin, or on clothing.
- For personal protection see section 8.
- Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Smoking, eating and drinking should be prohibited in the application area.
- Follow standard hygiene measures when handling chemical products.

Conditions for safe storage:
- Prevent unauthorized access.
- Store in original container.
- Keep container tightly closed in a dry and well-ventilated place.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Observe label precautions.
- Store in accordance with local regulations.

Materials to avoid:
- No data available

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis **</th>
<th>Value</th>
<th>Exposure limit(s)* / Form of exposure</th>
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</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>OSHA P0</td>
<td>TWA</td>
<td>10 mg/m³ Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Quartz (SiO₂)</td>
<td>14808-60-7</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>30 mg/m³ / %SiO₂+2 total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>10 mg/m³ / %SiO₂+2 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>250 mppcf / %SiO₂+5 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
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<td>Substance</td>
<td>Code/ID</td>
<td>OSHA/P0</td>
<td>ACGIH</td>
<td>Respirable fraction</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------</td>
<td>---------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td></td>
<td>ACGIH</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Quartz (SiO₂) ≤5µm</td>
<td>14808-60-7</td>
<td>OSHA Z-3</td>
<td>ACGIH</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>30 mg/m³ / %SiO₂+2 total dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>10 mg/m³ / %SiO₂+2 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA Z-3</td>
<td>250 mppcf / %SiO₂+5 respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>0.1 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA P0</td>
<td>0.1 mg/m³ respirable dust fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH</td>
<td>0.025 mg/m³ Respirable fraction</td>
</tr>
</tbody>
</table>
*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH: Threshold Limit Values (TLV)
OSHA P0: Table Z-1, Limit for Air Contaminant (1989 Vacated Values)
OSHA P1: Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2: Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3: Table Z-3, Mineral Dust

**Engineering measures**
Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Personal protective equipment**

Respiratory protection:
Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

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.

Remarks

Eye protection:
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection:
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures:
Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties
Appearance : liquid
Color : various
Odor : slight
Odor Threshold : No data available
Flash point : Note: Not applicable
Ignition temperature : Not applicable
Decomposition temperature : No data available
Lower explosion limit (Vol%) : No data available
Upper explosion limit (Vol%) : No data available
Flammability (solid, gas) : No data available
Oxidizing properties : No data available
Autoignition temperature : No data available
pH : No data available
Melting point/range / Freezing point : No data available
Boiling point/boiling range : No data available
Vapor pressure : No data available
Density : ca.1.55 g/cm³ at 68 °F (20 °C)
Water solubility : No data available
Partition coefficient: n-octanol/water : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : > 20.5 mm²/s at 104 °F (40 °C)
Relative vapor density : No data available
Evaporation rate : No data available
Burning rate : No data available
Volatile organic compounds (VOC) content : 43 g/l A+B Combined
10. Stability and reactivity

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : Stable under recommended storage conditions.
Conditions to avoid : No data available
Incompatible materials : No data available

11. Toxicological information

Acute toxicity
Not classified based on available information.

Ingredients:
dibenzoyl peroxide:
Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Acute inhalation toxicity : LC50 (Rat): > 24.3 mg/l
Exposure time: 4 h

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
May cause cancer.
IARC Group 1: Carcinogenic to humans
Quartz (SiO2) 14808-60-7
Quartz (SiO2) <5µm 14808-60-7

NTP Known to be human carcinogen
Quartz (SiO2) 14808-60-7
Quartz (SiO2) <5µm 14808-60-7

Reproductive toxicity
Not classified based on available information.
STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity
Not classified based on available information.

12. Ecological information

Other information
Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May be harmful to the environment if released in large quantities. Water polluting material.

13. Disposal considerations

Disposal methods
Waste from residues: 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.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA
UN number 3082
Description of the goods Environmentally hazardous substance, liquid, n.o.s. (dibenzoyl peroxide, nonylbenzoate, branched and linear)
Class 9
Packing group III
Labels 9
Packing instruction (cargo aircraft) 964
Packing instruction 964
(passenger aircraft)
Packing instruction Y964
(passenger aircraft)

**IMDG**

- **UN number**: 3082
- **Description of the goods**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dibenzoyl peroxide, nonylbenzoate, branched and linear)
- **Class**: 9
- **Packing group**: III
- **Labels**: 9
- **EmS Number 1**: F-A
- **EmS Number 2**: S-F

**Marine pollutant**: yes

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

**Special precautions for user**

No data available

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

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**15. Regulatory information**

**TSCA list**

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA304 Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**

Acute Health Hazard
Chronic Health Hazard

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>UN No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td>15.00 %</td>
</tr>
<tr>
<td>zinc distearate</td>
<td>557-05-1</td>
<td>3.00 %</td>
</tr>
</tbody>
</table>
Clean Air Act

Ozone-Depletion Potential
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65
WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

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