This is a kit that contains the following components:
HIGH PERFORMANCE EPOXY(A)-80 OZ-SUN BUFF
INCRETE HP EPOXY 2:1 PART B
SAFETY DATA SHEET

1. Identification

Product identifier: HIGH PERFORMANCE EPOXY(A)-80 OZ-SUN BUFF
Product Code: CEPK O120 840

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (Inhalation - dust and mist)</td>
<td>Category 4</td>
<td></td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td></td>
<td>Category 1B</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td></td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin sensitizer</td>
<td></td>
<td>Category 1</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td></td>
<td>Category 1B</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
<td>Category 1B</td>
</tr>
<tr>
<td>Toxic to reproduction</td>
<td></td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Unknown toxicity - Health

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, oral</td>
<td></td>
<td>9.5 %</td>
</tr>
<tr>
<td>Acute toxicity, dermal</td>
<td></td>
<td>31.84 %</td>
</tr>
<tr>
<td>Acute toxicity, inhalation, vapor</td>
<td></td>
<td>95.45 %</td>
</tr>
<tr>
<td>Acute toxicity, inhalation, dust or mist</td>
<td></td>
<td>99.14 %</td>
</tr>
</tbody>
</table>

Environmental Hazards

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hazards to the aquatic environment</td>
<td></td>
<td>Category 2</td>
</tr>
<tr>
<td>Chronic hazards to the aquatic environment</td>
<td></td>
<td>Category 2</td>
</tr>
</tbody>
</table>
Unknown toxicity - Environment

Acute hazards to the aquatic environment  17.49 %
Chronic hazards to the aquatic environment  30.21 %

Label Elements

Hazard Symbol:

Signal Word:  Danger

Hazard Statement:  Harmful if inhaled.  Causes severe skin burns and eye damage.  May cause an allergic skin reaction.  May cause genetic defects.  May cause cancer.  Suspected of damaging fertility or the unborn child.  Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:  Use only outdoors or in a well-ventilated area.  Do not breathe dust/fume/gas/mist/vapors/spray.  Wash thoroughly after handling.  Wear protective gloves/protective clothing/eye protection/face protection.  Contaminated work clothing should not be allowed out of the workplace.  Obtain special instructions before use.  Do not handle until all safety precautions have been read and understood.  Use personal protective equipment as required.  Avoid release to the environment.

Response:  IF INHALED: Remove person to fresh air and keep comfortable for breathing.  IF IN EYES: Rinse cautiously with water for several minutes.  Remove contact lenses, if present and easy to do.  Continue rinsing.  IF ON SKIN (or hair): Take off immediately all contaminated clothing.  Rinse skin with water [or shower].  If skin irritation or rash occurs: Get medical advice/attention.  IF SWALLOWED: Rinse mouth.  Do NOT induce vomiting.  Immediately call a POISON CENTER/doctor.  Specific treatment (see on this label).  Wash contaminated clothing before reuse.  Collect spillage.

Storage:  Store locked up.

Disposal:  Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A Polyglycidyl Ether Resin</td>
<td>25068-38-6</td>
<td>50 - &lt;100%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
<td>84852-15-3</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>Neopentyl glycol diglycidyl ether</td>
<td>17557-23-2</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>Kaolin Clay</td>
<td>1332-58-7</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Epichlorohydrin polymer</td>
<td>25085-99-8</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>0 - &lt;1%</td>
</tr>
<tr>
<td>Amorphous silica</td>
<td>7631-86-9</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Aromatic petroleum distillates</td>
<td>64742-95-6</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td>1314-23-4</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Petroleum naphtha, heavy alkylate</td>
<td>64741-65-7</td>
<td>0.1 - &lt;1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Call a physician or poison control center immediately. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Ingestion: Rinse mouth. Call a physician or poison control center immediately. Never give liquid to an unconscious person. Do not induce vomiting without advice from poison control center.

Personal Protection for First-aid Responders: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed
Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

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

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Handling
Technical measures (e.g. Local and general ventilation):
Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Safe handling advice:
Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing.

Contact avoidance measures:
No data available.

Hygiene measures:
Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing.

Storage

Safe storage conditions:
Store locked up.

Safe packaging materials:
No data available.

8. Exposure controls/personal protection

Control Parameters

### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Titanium dioxide - Respirable fraction.</td>
<td>TWA</td>
<td>15 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)</td>
</tr>
<tr>
<td>Titanium dioxide - Respirable fraction.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>50 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable fraction.</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable fraction.</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Kaolin Clay - Total dust.</td>
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<tr>
<td>Chemical name</td>
<td>Type</td>
<td>Exposure Limit Values</td>
<td>Source</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable.</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable dust.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable fraction.</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (08 2017)</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Type</td>
<td>Exposure Limit Values</td>
<td>Source</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------</td>
<td>-----------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m^3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m^3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable.</td>
<td>TWA</td>
<td>2 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Kaolin Clay - Respirable dust.</td>
<td>TWA</td>
<td>5 mg/m^3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Aluminum oxide - Respirable.</td>
<td>TWA</td>
<td>1 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Aluminum oxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Amorphous silica - Total</td>
<td>TWA</td>
<td>4 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Amorphous silica - Respirable</td>
<td>TWA</td>
<td>1.5 mg/m^3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Amorphous silica - Respirable dust.</td>
<td>TWA</td>
<td>6 mg/m^3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol acetate</td>
<td>TWA</td>
<td>50 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>75 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<tr>
<td>Substance</td>
<td>Exposure Value</td>
<td>Concentration</td>
<td>Source</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol acetate</td>
<td>TWA</td>
<td>50 ppm</td>
<td>270 mg/m³, Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Zirconium dioxide - as Zr</td>
<td>STEL</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Zirconium dioxide - as Zr</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Zirconium dioxide - as Zr</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Substance</td>
<td>Exposure Measure</td>
<td>Value</td>
<td>Canada. OELs</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>Petroleum naphtha, heavy alkylate</td>
<td>TWA</td>
<td>525 mg/m³</td>
<td>Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Petroleum naphtha, heavy alkylate</td>
<td>TWA</td>
<td>400 ppm 1,590 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm 123 mg/m³</td>
<td>Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Ontario OELs. (Control of Exposure to Biological or Chemical Agents)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm 123 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Iron oxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Iron oxide - Dust. - as Fe</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Iron oxide - Fume. - as Fe</td>
<td>STEL</td>
<td>10 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Iron oxide - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Iron oxide - Fume. - as Fe</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Iron oxide - Respirable fraction.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Iron oxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Iron oxide - Dust and fume. - as Fe</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>3 mg/m³</td>
<td>British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>3 mg/m³</td>
<td>Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>STEL</td>
<td>3 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Substance Description</td>
<td>TWA</td>
<td>Exposure Limit</td>
<td>Source</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Canada, British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.10 mg/m³</td>
<td>Canada, Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable dust.</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Canada, Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

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

**General information:** Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Eye/face protection:** Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

**Skin Protection**

**Hand Protection:** Use suitable protective gloves if risk of skin contact.

**Other:** Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

**Hygiene measures:** Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

**9. Physical and chemical properties**

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>liquid</td>
</tr>
<tr>
<td>Form:</td>
<td>liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Beige</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

000000018804
Initial boiling point and boiling range: No data available.
Flash Point: 118 °C 244 °F (Pensky-Martens Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
  Flammability limit - upper (%): No data available.
  Flammability limit - lower (%): No data available.
  Explosive limit - upper (%): No data available.
  Explosive limit - lower (%): No data available.
Vapor pressure: No data available.
Vapor density: Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density: 1.27
Solubility(ies)
  Solubility in water: Insoluble in water
  Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Avoid heat or contamination.
Incompatible Materials: No data available.
Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure
Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact: May be harmful in contact with skin. Causes severe skin burns. May cause an allergic skin reaction.
Eye contact: Causes serious eye damage.
Ingestion: May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 17,392.76 mg/kg

Dermal
Product: Not classified for acute toxicity based on available data.

Specified substance(s):
- Bisphenol A Polyglycidyl Ether Resin
  LD 50 (Rat): > 2,000 mg/kg
- Kaolin Clay
  LD 50 (Rat): > 5,000 mg/kg
- Amorphous silica
  LD 50 (Rabbit): > 2,000 mg/kg
- Aromatic petroleum distillates
  LD 50 (Rabbit): > 2,000 mg/kg

Inhalation
Product: ATEmix: 2.16 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
### Serious Eye Damage/Eye Irritation
**Product:** No data available.

**Specified substance(s):**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A Polyglycidyl Ether Resin</td>
<td>Strongly irritating.</td>
</tr>
<tr>
<td></td>
<td>Rabbit, 24 hrs: Slightly irritating</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Rabbit, 24 hrs: Not irritating</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
<td>Rabbit, 24 - 72 hrs: Corrosive</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>Rabbit, 24 hrs: Not irritating</td>
</tr>
<tr>
<td>Amorphous silica</td>
<td>Rabbit, 24 hrs: Not irritating</td>
</tr>
<tr>
<td>Aromatic petroleum distillates</td>
<td>Rabbit, 24 - 72 hrs: Not irritating</td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td>Rabbit, 24 hrs: Not irritating</td>
</tr>
</tbody>
</table>

### Respiratory or Skin Sensitization
**Product:** No data available.

### Carcinogenicity
**Product:** May cause cancer.

### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

- **Titanium dioxide**
  - Overall evaluation: Possibly carcinogenic to humans.

### US. National Toxicology Program (NTP) Report on Carcinogens:

- No carcinogenic components identified
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Bisphenol A Polyglycidyl Ether Resin LC 50 (Oncorhynchus mykiss, 96 h): 2 mg/l Experimental result, Key study
4-Nonylphenol LC 50 (Fathead minnow (Pimephales promelas), 96 h): 0.13825 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Bisphenol A Polyglycidyl Ether Resin EC 50 (Daphnia magna, 48 h): 1.8 mg/l Experimental result, Key study
Titanium dioxide

EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
4-Nonylphenol
NOAEL (Oncorhynchus mykiss, 91 d): 0.006 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Bisphenol A Polyglycidyl Ether Resin
NOEC (Daphnia magna, 21 d): 0.3 mg/l Experimental result, Key study

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Specified substance(s):
Bisphenol A Polyglycidyl Ether Resin
Bioconcentration Factor (BCF): 31 Aquatic sediment QSAR, Key study

4-Nonylphenol
Fathead minnow (Pimephales promelas), Bioconcentration Factor (BCF): 988 (Flow through)

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Bisphenol A Polyglycidyl Ether Resin
Log Kow: 2.64 - 3.78 25 °C Yes Experimental result, Key study

Mobility in soil: No data available.

Other adverse effects: Toxic to aquatic life with long lasting effects.
13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT: Not Regulated

IMDG: Not Regulated

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity | Reportable quantity
-------------------|--------------------------------------------------
4-Nonylphenol      | De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US, Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)
None present or none present in regulated quantities.


Chemical Identity | OSHA hazard(s)
-----------------|----------------
Crystalline Silica | kidney effects
(Quartz)/ Silica Sand | lung effects
| immune system effects
| Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity | Reportable quantity
-------------------|------------------
Phosphoric acid    | 5000 lbs.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate (Acute) Health Hazards
- Delayed (Chronic) Health Hazard
- Acute toxicity (any route or exposure)
- Skin Corrosion or Irritation
- Serious eye damage or eye irritation
- Respiratory or Skin Sensitization
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive toxicity

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>5000 lbs.</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A Polyglycidyl Ether Resin</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Neopentyl glycol diglycidyl ether</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Kaolin Clay</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Epichlorohydrin polymer</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Amorphous silica</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Aromatic petroleum distillates</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Zirconium dioxide</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Petroleum naphtha, heavy alkylate</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Nonylphenol</td>
</tr>
</tbody>
</table>

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer - www.P65Warnings.ca.gov
US. New Jersey Worker and Community Right-to-Know Act

**Chemical Identity**
Titanium dioxide  
Kaolin Clay

US. Massachusetts RTK - Substance List

**Chemical Identity**  
Titanium dioxide  
4-Nonylphenol  
Kaolin Clay  
Crystalline Silica (Quartz)/ Silica Sand

US. Pennsylvania RTK - Hazardous Substances

**Chemical Identity**  
Titanium dioxide  
4-Nonylphenol  
Kaolin Clay

US. Rhode Island RTK

**Chemical Identity**  
Titanium dioxide  
Kaolin Clay

International regulations

**Montreal protocol**  
Not applicable

**Stockholm convention**  
Not applicable

**Rotterdam convention**  
Not applicable

**Kyoto protocol**  
Not applicable

**VOC:** When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:  
92 g/l

Regulatory VOC (less water and exempt solvent) : 37 g/l

VOC Method 310 : 2.92 %
**Inventory Status:**

<table>
<thead>
<tr>
<th>Country/Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia AICS</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Canada DSL Inventory List</td>
<td>All components in this product are listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>EINECS, ELINCS or NLP</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Japan (ENCS) List</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>China Inv. Existing Chemical Substances</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Korea Existing Chemicals Inv. (KECI)</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Canada NDSL Inventory</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Philippines PICCS</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>US TSCA Inventory</td>
<td>All components in this product are listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>New Zealand Inventory of Chemicals</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Japan ISHL Listing</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Japan Pharmacopoeia Listing</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
</tbody>
</table>

**16. Other information, including date of preparation or last revision**

- **Revision Date:** 08/12/2019
- **Version #:** 2.0
- **Further Information:** No data available.
Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.
SAFETY DATA SHEET

1. Identification

Product identifier: INCRETE HP EPOXY 2:1 PART B
Product Code: CEPK O120 840

Recommended use and restriction on use
- Recommended use: Curative
- Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards
- Acute toxicity (Oral) Category 4
- Acute toxicity (Inhalation - vapor) Category 4
- Skin Corrosion/Irritation Category 1A
- Serious Eye Damage/Eye Irritation Category 1
- Respiratory sensitizer Category 1
- Skin sensitizer Category 1
- Toxic to reproduction Category 2

Unknown toxicity - Health
- Acute toxicity, oral 15.75 %
- Acute toxicity, dermal 24.39 %
- Acute toxicity, inhalation, vapor 73.56 %
- Acute toxicity, inhalation, dust or mist 73.31 %

Environmental Hazards
- Acute hazards to the aquatic environment Category 2

Unknown toxicity - Environment
Acute hazards to the aquatic environment 53.39 %
Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Toxic to aquatic life.
Harmful if swallowed or if inhaled.

Precautionary Statements

Prevention: Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC):

None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>25 - &lt;50%</td>
</tr>
<tr>
<td>Poly(oxypropylene) diamine</td>
<td>9046-10-0</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>4,4’-diaminodicyclohexyl methane</td>
<td>1761-71-3</td>
<td>10 - &lt;20%</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
<td>84852-15-3</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>N Amino ethyl piperazine</td>
<td>140-31-8</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>Piperazine</td>
<td>110-85-0</td>
<td>1 - &lt;3%</td>
</tr>
<tr>
<td>Petroleum distillates</td>
<td>64742-47-8</td>
<td>0.1 - &lt;1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

**Inhalation:**
Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

**Skin Contact:**
Call a physician or poison control center immediately. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

**Eye contact:**
Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

**Ingestion:**
Rinse mouth. Call a physician or poison control center immediately. Never give liquid to an unconscious person. Do not induce vomiting without advice from poison control center.

**Personal Protection for First-aid Responders:**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

**Symptoms:**
Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

**Hazards:**
No data available.

Indication of immediate medical attention and special treatment needed
Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

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

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.
Safe handling advice: Do not taste or swallow. Wash hands thoroughly after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

Storage

Safe storage conditions: Store locked up.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>ST ESL</td>
<td>50 µg/m3</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td></td>
<td>AN ESL</td>
<td>5 µg/m3</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td></td>
<td>TWA PEL</td>
<td>5 mg/m3</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Piperazine - Inhalable fraction and vapor. - as piperazine</td>
<td>TWA</td>
<td>0.03 ppm</td>
<td>US. ACGIH Threshold Limit Values (02 2012)</td>
</tr>
<tr>
<td>Petroleum distillates - Non-aerosol. - as total hydrocarbon vapor</td>
<td>TWA</td>
<td>200 mg/m3</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>200 mg/m3</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
</tbody>
</table>
### Exposure Limit Values

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>0.5 ppm, 3.1 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</td>
</tr>
<tr>
<td>Piperazine - as piperazine</td>
<td>STEL</td>
<td>1 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)</td>
</tr>
<tr>
<td>Piperazine - as piperazine</td>
<td>TWA</td>
<td>0.3 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)</td>
</tr>
<tr>
<td>Piperazine - Inhalable fraction and vapor. - as piperazine</td>
<td>TWA</td>
<td>0.03 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
</tbody>
</table>

### Exposure guidelines

<table>
<thead>
<tr>
<th>Petroleum distillates</th>
<th>US. ACGIH Threshold Limit Values</th>
<th>Can be absorbed through the skin.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US. ACGIH Threshold Limit Values</td>
<td>Can be absorbed through the skin.</td>
</tr>
</tbody>
</table>

### Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

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

#### General information:
Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### Eye/face protection:
Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

#### Skin Protection

Hand Protection:
Use suitable protective gloves if risk of skin contact.

Other:
Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
<td>liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Pale yellow</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild pungent</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>&gt; 93 °C &gt; 200 °F</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Slower than Ether</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No</td>
</tr>
</tbody>
</table>

Upper/lower limit on flammability or explosive limits

| Flammability limit - upper (%)| No data available. |
| Flammability limit - lower (%)| No data available. |
| Explosive limit - upper (%)| No data available. |
| Explosive limit - lower (%)| No data available. |

Vapor pressure: No data available.

Vapor density: Vapors are heavier than air and may travel along the floor and in the bottom of containers.

Relative density: 1.01

Solubility(ies)

| Solubility in water: | Practically Insoluble |
| Solubility (other):  | No data available.   |

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: No data available.
10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: Avoid contact with acids.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: May be harmful in contact with skin. Causes severe skin burns. May cause an allergic skin reaction.

Eye contact: Causes serious eye damage.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix: 1,004.34 mg/kg

Dermal Product: ATEmix: 2,040.85 mg/kg

Inhalation Product: ATEmix: 11 mg/l
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
Benzyl alcohol in vivo (Rabbit): Not irritant
Poly(oxypropylene) diamine (Rabbit): Corrosive
4,4’-diaminodicyclohexyl methane in vivo (Rabbit): Corrosive
4-Nonylphenol in vivo (Rabbit): Category 1B
N Amino ethyl piperazine in vivo (Rabbit): Severe damage to the belly
Triethanolamine in vivo (Rabbit): Not irritant
Piperazine in vivo (Rabbit): Category 1A
Petroleum distillates in vivo (Rabbit): Irritating

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
Poly(oxypropylene) diamine Rabbit, 24 hrs: Corrosive
4,4’-diaminodicyclohexyl methane Rabbit, 1 hrs: Category 1
4-Nonylphenol Rabbit, 24 - 72 hrs: Corrosive
Petroleum distillates Rabbit, 24 - 72 hrs: Not irritating

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity
Product: No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity

   In vitro
     Product: No data available.

   In vivo
     Product: No data available.

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

   Fish
     Product: No data available.

   Specified substance(s):
     Benzyl alcohol LC 50 (Fathead minnow (Pimephales promelas), 96 h): 460 mg/l Mortality
     4,4’-diaminodicyclohexyl methan e LC 50 (Leuciscus idus, 96 h): 100 mg/l
     4-Nonylphenol LC 50 (Fathead minnow (Pimephales promelas), 96 h): 0.13825 mg/l
Mortality

N Amino ethyl piperazine  LC 50 (Fathead minnow (Pimephales promelas), 96 h): 1,950 - 2,460 mg/l

Mortality

Triethanolamine  LC 50 (Fathead minnow (Pimephales promelas), 96 h): 10,610 - 13,010 mg/l

LC 50 (Pimephales promelas, 96 h): 11,800 mg/l Experimental result, Key study

Petroleum distillates  LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 96 h): 2.9 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Benzyl alcohol  EC 50 (Daphnia magna, 48 h): 230 mg/l Experimental result, Key study

4,4'-diaminodicyclohexyl methane  EC 50 (Daphnia magna, 48 h): 7.64 mg/l

Triethanolamine  EC 50 (Ceriodaphnia dubia, 48 h): 609.88 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

4,4'-diaminodicyclohexyl methane  NOAEL (Various): > 1 mg/l Estimated by calculation, Supporting study

4-Nonylphenol  NOAEL (Oncorhynchus mykiss, 91 d): 0.006 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

4,4'-diaminodicyclohexyl methane  NOEC (Daphnia magna): 4 mg/l

Triethanolamine  NOEC (Daphnia magna, 21 d): 125 mg/l Experimental result, Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.
BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Specified substance(s):
4-Nonylphenol Fathead minnow (Pimephales promelas), Bioconcentration Factor (BCF): 988 (Flow through)
Triethanolamine Various, Bioconcentration Factor (BCF): 0.89 Aquatic sediment QSAR, Supporting study
Cyprinus carpio, Bioconcentration Factor (BCF): < 3.9 Aquatic sediment Experimental result, Key study
Bioconcentration Factor (BCF): 3.02 Aquatic sediment QSAR, Weight of Evidence study
Bioconcentration Factor (BCF): 0.68 Aquatic sediment QSAR, Supporting study
Bioconcentration Factor (BCF): 0.96 Aquatic sediment QSAR, Supporting study

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Benzyl alcohol Log Kow: 1.10
Triethanolamine Log Kow: -1.75 - -1.32 No Estimated by calculation, Weight of Evidence study
Log Kow: -1.00
Piperazine Log Kow: -1.17

Mobility in soil: No data available.

Other adverse effects: Toxic to aquatic organisms.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:
UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (CYCLOALIPHATIC AMINE), 8, PG III
CFR / DOT:

UN2735, Amines, liquid, corrosive, n.o.s. (CYCLOALIPHATIC AMINE), 8, PG III

IMDG:

UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (CYCLOALIPHATIC AMINE), 8, PG III

Further Information:
The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Nonylphenol</td>
<td>De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.</td>
</tr>
</tbody>
</table>

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>5000 lbs.</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate (Acute) Health Hazards
- Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>5000 lbs.</td>
</tr>
</tbody>
</table>
SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Poly(oxypropylene) diamine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>4,4’-diaminodicyclohexyl methane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>N Amino ethyl piperazine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Piperazine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Petroleum distillates</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Nonylphenol</td>
</tr>
</tbody>
</table>

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
For more information go to www.P65Warnings.ca.gov.

US. New Jersey Worker and Community Right-to-Know Act

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Amino ethyl piperazine</td>
</tr>
<tr>
<td>Triethanolamine</td>
</tr>
<tr>
<td>Piperazine</td>
</tr>
</tbody>
</table>

US. Massachusetts RTK - Substance List

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
</tr>
<tr>
<td>N Amino ethyl piperazine</td>
</tr>
<tr>
<td>Triethanolamine</td>
</tr>
<tr>
<td>Piperazine</td>
</tr>
</tbody>
</table>

US. Pennsylvania RTK - Hazardous Substances

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
</tr>
<tr>
<td>4-Nonylphenol</td>
</tr>
<tr>
<td>N Amino ethyl piperazine</td>
</tr>
<tr>
<td>Triethanolamine</td>
</tr>
<tr>
<td>Piperazine</td>
</tr>
</tbody>
</table>

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

International regulations
Montreal protocol
   Not applicable

Stockholm convention
   Not applicable

Rotterdam convention
   Not applicable

Kyoto protocol
   Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
   0 g/l

Regulatory VOC (less water and exempt solvent) : 360 g/l
VOC Method 310 : 35.68 %
Inventory Status:
Australia AICS: One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List: One or more components in this product are not listed on or exempt from the Inventory.

EINECS, ELINCS or NLP: One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List: One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances: One or more components in this product are not listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI): One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory: One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS: One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory: One or more components in this product are not listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals: One or more components in this product are not listed on or exempt from the Inventory.

Japan ISHL Listing: One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing: One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

Revision Date: 08/12/2019
Version #: 2.0
Further Information: No data available.
Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.