1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name EpoThin 2 Hardener
Product Code(s) 20-3442-016, 20-3442-064
(M)SDS Number 1501014_A

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use Only
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Buehler
Manufacturer Address 41 Waukegan Rd
Lake Bluff, IL 60044
www.buehler.com
Phone number +1 847 295 6500
E-mail Address custserv@buehler.com

Emergency telephone number

Global Access Code: 334545
Americas: +1 760 476 3962	Asia Pacific: +1 760 476 3960
Middle East/Africa: +1 760 476 3959	Europe: +1 760 476 3961

2. HAZARDS IDENTIFICATION

Classification

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Category</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
<td>Sub-category A</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
<td></td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1B</td>
<td></td>
</tr>
<tr>
<td>Corrosive to metals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements
Emergency Overview

Signal word: Danger

Hazard Statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May damage fertility or the unborn child
Toxic to aquatic life with long lasting effects
May be corrosive to metals

Appearance: Clear
Physical state: Liquid
Odor: Acrid

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response
Specific treatment (see supplemental first aid instructions on this label)
Immediately call a POISON CENTER or doctor/physician

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation or rash occurs: Get medical advice/attention

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

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

Spill
Absorb spillage to prevent material damage

Precautionary Statements - Storage
Store locked up
Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other information
Toxic to aquatic life with long lasting effects

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol diamine, 2-amino-, diether with Propylene</td>
<td>9046-10-0</td>
<td>20 - 50%</td>
<td>*</td>
</tr>
<tr>
<td>p-tert-Butyl phenol</td>
<td>98-54-4</td>
<td>10 - 20%</td>
<td>*</td>
</tr>
<tr>
<td>m-Xylene-.alpha,.alpha,.-diamine</td>
<td>1477-55-0</td>
<td>10 - 20%</td>
<td>*</td>
</tr>
<tr>
<td>Triphenyl phosphite</td>
<td>101-02-0</td>
<td>0 - 20%</td>
<td>*</td>
</tr>
<tr>
<td>Triethylene tetramine</td>
<td>112-24-3</td>
<td>0 - 1%</td>
<td>*</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>0 - 20%</td>
<td>*</td>
</tr>
<tr>
<td>Piperazine</td>
<td>110-85-0</td>
<td>0 - 1%</td>
<td>*</td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine</td>
<td>140-31-8</td>
<td>0 - 1%</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

First aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Ingestion
Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. May produce an allergic reaction. If an allergic reaction occurs, stop use and seek medical help right away.

Self-protection of the first aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use
barrier to give mouth-to-mouth resuscitation.

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

**Most Important Symptoms and Effects**

- Burning sensation.
- Coughing and/or wheezing.
- Difficulty in breathing.
- Itching.
- Rashes.
- Hives. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

**Notes to Physician**

- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

---

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material. Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Runoff may pollute waterways. Substance may be transported in a molten form.

**Uniform Fire Code**

- Sensitizer: Liquid
- Toxic: Liquid
- Corrosive: Other--Liquid

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

- Sensitivity to Mechanical Impact: No.

- Sensitivity to Static Discharge: No.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions  
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk.

Other Information  
Do not get water inside containers.

Environmental precautions

Environmental precautions  
Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment  
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for cleaning up  
Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling  
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage  
Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible Products  

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines  
The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL (vacated)</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Xylene-alpha, alpha-diamine</td>
<td>Ceiling: 0.1 mg/m³</td>
<td>Ceiling: 0.1 mg/m³</td>
<td>Ceiling: 0.1 mg/m³</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA: 5 mg/m³</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>


**Other Exposure Guidelines**

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

**Appropriate engineering controls**

**Engineering Measures**

- Showers
- Eyewash stations
- Ventilation systems

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

**Eye/face protection**

Face protection shield.

**Skin and body protection**

Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

---

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Acrid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting / freezing point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;90 °C</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Moderately soluble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Data Lacking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
</tbody>
</table>
1501014 - EpoThin 2 Hardener

Revision Date 18-Mar-2019

Kinematic viscosity
Dynamic viscosity 150 cP
Explosive properties No data available
Oxidizing properties No data available

Other Information
Softening Point No data available
VOC Content (%) No data available
Particle Size None known
Particle Size Distribution None known

10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization in susceptible persons.

Eye contact
Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact
Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Toxic in contact with skin. May be absorbed through the skin in harmful amounts. Repeated or prolonged skin contact may cause allergic reactions with
susceptible persons.

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. May cause additional affects as listed under "Inhalation".

**Component Information**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50 (mg/kg)</th>
<th>Dermal LD50 (mg/kg)</th>
<th>Inhalation LC50 (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol diamine, 2-amino-, diether with Propylene 9046-10-0</td>
<td>= 242 (Rat)</td>
<td>= 360 (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>p-tert-Butyl phenol 98-54-4</td>
<td>= 4000 (Rat)</td>
<td>= 2318 (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>m-Xylene-.alpha., alpha.,-diamine 1477-55-0</td>
<td>= 660 (Rat)</td>
<td>= 2 (Rabbit)</td>
<td>= 700 ppm (Rat) 1 h</td>
</tr>
<tr>
<td>Triphenyl phosphite 101-02-0</td>
<td>= 444 (Rat)</td>
<td>&gt; 2000 (Rabbit)</td>
<td>&gt; 6.7 mg/L (Rat) 1 h</td>
</tr>
<tr>
<td>Triethylene tetramine 112-24-3</td>
<td>= 2500 (Rat)</td>
<td>= 550 (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>= 4190 (Rat)</td>
<td>&gt; 16 mL/kg (Rat) &gt; 20 mL/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>Piperazine 110-85-0</td>
<td>= 600 (Rat)</td>
<td>= 1590 (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>= 2140 µL/kg (Rat)</td>
<td>= 880 µL/kg (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**

Erythema (skin redness). Burning. May cause blindness. Coughing and/or wheezing. Itching. Rashes. Hives. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

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

**Sensitization**

May cause sensitization in susceptible persons. May cause sensitization by skin contact. May cause sensitization by inhalation.

**Mutagenic Effects**

Contains a known or suspected mutagen.

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>Group 3</td>
<td>Group 3 - Not Classifiable as to Carcinogenicity in Humans</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

Contains a known or suspected reproductive toxin.

**STOT - single exposure**

Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). If this product is a mixture, the classification is not based
on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. Detailed substance and/or ingredient information may be provided in other sections of this SDS. Target organs effects listed in this document may result from a single overexposure to this product. May cause damage to organs if swallowed. May cause damage to organs in contact with skin.

**STOT - repeated exposure**
Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

**Chronic Toxicity**
Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Effects from this product caused by acute exposure may cause permanent damage to target organs and/or may cause chronic conditions. Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. Contains a known or suspected mutagen. Possible risk of irreversible effects. Contains a known or suspected reproductive toxin. Avoid repeated exposure. May cause adverse liver effects.

**Target Organ Effects**

**Aspiration Hazard**
No information available.

**Numerical measures of toxicity**

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

- **ATEmix (oral)**
  572.80 mg/kg
- **ATEmix (dermal)**
  922.20 mg/kg (ATE)
- **ATEmix (inhalation-gas)**
  58,800.00 ppm (4 hr)
- **ATEmix (inhalation-dust/mist)**
  42.08 mg/L
- **ATEmix (inhalation-vapor)**
  10.50 ATEmix
## 12. ECOLOGICAL INFORMATION

### Ecotoxicity
Harmful to aquatic life. Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-tert-Butyl phenol 98-54-4</td>
<td>72h EC50: = 11.2 mg/L (Desmodesmus subspicatus)</td>
<td>96h LC50: = 6.9 mg/L (Cyprinus carpio) 96h LC50: = 4.71 - 5.62 mg/L (Pimephales promelas)</td>
<td>EC50 = 0.21 mg/L 5 min</td>
<td>48h EC50: = 3.9 mg/L 48h EC50: = 3.4 - 4.5 mg/L</td>
</tr>
<tr>
<td>Triethylene tetramine 112-24-3</td>
<td>72h EC50: = 2.5 mg/L (Desmodesmus subspicatus) 96h EC50: = 3.7 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 20 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: = 570 mg/L (Poecilia reticulata) 96h LC50: = 495 mg/L (Pimephales promelas)</td>
<td>EC50 = 31.1 mg/L</td>
<td></td>
</tr>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>96h EC50: = 169 mg/L (Desmodesmus subspicatus) 72h EC50: = 216 mg/L (Desmodesmus subspicatus)</td>
<td>96h LC50: = 10600 - 13000 mg/L (Pimephales promelas) 96h LC50: = 1000 mg/L (Pimephales promelas) 96h LC50: = 450 - 1000 mg/L (Lepomis macrochirus)</td>
<td>24h EC50: = 1386 mg/L</td>
<td></td>
</tr>
<tr>
<td>Piperazine 110-85-0</td>
<td></td>
<td>96h LC50: &gt; 10000 mg/L (Lepomis macrochirus)</td>
<td>EC50 = 430 mg/L 30 min</td>
<td>96h EC50: = 6915 mg/L</td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>72h EC50: = 495 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: &gt; 100 mg/L (Oncorhynchus mykiss) 96h LC50: &gt; 1000 mg/L (Poecilia reticulata) 96h LC50: = 1950 - 2460 mg/L (Pimephales promelas)</td>
<td>EC50 &gt; 10000 mg/L 17 h</td>
<td>48h EC50: = 32 mg/L</td>
</tr>
</tbody>
</table>

### Persistence and Degradability
No information available.

### Bioaccumulation

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-tert-Butyl phenol 98-54-4</td>
<td>2.44</td>
</tr>
<tr>
<td>Triphenyl phosphite 101-02-0</td>
<td>4.98</td>
</tr>
<tr>
<td>Triethylene tetramine 112-24-3</td>
<td>-1.4</td>
</tr>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>-2.53</td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>-1.48</td>
</tr>
</tbody>
</table>

### Other adverse effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging
Dispose of contents/containers in accordance with local regulations.

US EPA Waste Number
U188

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

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name
AMINES, LIQUID, CORROSIVE, N.O.S.
Hazard Class
8
Packing Group
II
Description
UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, PHENOL), 8, III
Emergency Response Guide Number
153

TDG
UN Number
UN2735
Proper Shipping Name
POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Hazard Class
8
Packing Group
II
Description
UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, TRIETHYLENE TETRAMINE), 8, III

MEX
UN-No.
UN2735
Proper Shipping Name
POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Hazard Class
8
Packing Group
II
Description
UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, PHENOL), 8, III

ICAO
UN-No.
UN2735
Proper Shipping Name
AMINES, LIQUID, CORROSIVE, N.O.S.
Hazard Class
8
Packing Group
III
Description
UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, TRIETHYLENE TETRAMINE), 8, III

IATA
UN-No.
UN2735
Proper Shipping Name
AMINES, LIQUID, CORROSIVE, N.O.S.
Hazard Class
8
Packing group
II
ERG Code
8L
Description
UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE,
2-AMINO-, DIETHER WITH PROPYLENE, TRIETHYLENE TETRAMINE), 8, III

**IMDG/IMO**

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<th>UN-No.</th>
<th>2735</th>
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<td>EmS-No.</td>
<td>F-A, S-B</td>
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<td>Description</td>
<td>UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, TRIETHYLENE TETRAMINE), 8, III, MARINE POLLUTANT</td>
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**RID**

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<tr>
<td>Packing Group</td>
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<tr>
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<td>C7</td>
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<tr>
<td>Description</td>
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**ADR/RID-Labels**

| 8 |

**ADR**

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<td>Hazard Class</td>
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<tr>
<td>Packing Group</td>
<td>II</td>
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<tr>
<td>Classification code</td>
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<td>Tunnel restriction code</td>
<td>(E)</td>
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<td>UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (PROPYLENE GLYCOL DIAMINE, 2-AMINO-, DIETHER WITH PROPYLENE, TRIETHYLENE TETRAMINE), 8, III, (E), ENVIRONMENTALLY HAZARDOUS</td>
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**ADN**

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<td>274</td>
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</table>

| Hazard Labels | 8 |
| Limited Quantity | 5 L |

### 15. REGULATORY INFORMATION

**International Inventories**

| TSCA | Complies |
| DSL | All components are listed either on the DSL or NDSL. |
| IECSC | |

**US Federal Regulations**

| TSCA | United States Toxic Substances Control Act Section 8(b) Inventory |
| DSL/NDSL | Canadian Domestic Substances List/Non-Domestic Substances List |
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
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<tbody>
<tr>
<td>Acute Health Hazard</td>
<td></td>
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<tr>
<td>Chronic Health Hazard</td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
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</tbody>
</table>

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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

US State Regulations

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

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
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</thead>
<tbody>
<tr>
<td>m-Xylene-alpha., alpha.-diamine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Triethylene tetramine</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piperazine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</table>

International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
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<tbody>
<tr>
<td>m-Xylene-alpha., alpha.-diamine 1477-55-0 (10 - 20%)</td>
<td></td>
<td>Mexico: Ceiling 0.1 mg/m³</td>
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</table>

Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Not determined

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Rating</th>
<th>NFPA Health Hazards</th>
<th>Flammability</th>
<th>Physical and Chemical Hazards</th>
<th>HMIS Health Hazards</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
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<tr>
<td>3</td>
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Chronic Hazard Star Legend
* = Chronic Health Hazard
Prepared By: Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date: 01-Feb-2019
Revision Date: 18-Mar-2019
Revision Note: No information available

Disclaimer
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End of Safety Data Sheet