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

1.1 Product identifier

Trade name: EPROPOX HC 120 B +

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture: Epoxy Hardener

1.3 Details of the supplier of the safety data sheet

Company: Trelleborg Pipe Seals Duisburg GmbH
Dr.-Alfred-Herrhausen-Allee 36
47228 Duisburg
Germany

Telephone: +49 (0) 2065 999-0
Telefax: +49 (0) 2065 999-111
E-mail address: technic.epros@trelleborg.com

1.4 Emergency telephone number: +49 (0) 2065 999-150

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4: H302: Harmful if swallowed.
Acute toxicity, Category 4: H312: Harmful in contact with skin.
Skin corrosion, Category 1B: H314: Causes severe skin burns and eye damage.
Skin sensitisation, Category 1: H317: May cause an allergic skin reaction.
Chronic aquatic toxicity, Category 2: H411: Toxic to aquatic life with long lasting effects.

Classification (67/548/EEC, 1999/45/EC)

Corrosive: R34: Causes burns.
Harmful: R21/22: Harmful in contact with skin and if swallowed.
Sensitising: R43: May cause sensitisation by skin contact.
Dangerous for the environment: R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms:

- \[\text{Hazard pictograms} \]

Signal word: Danger

Hazard statements:
- H302 + H312: Harmful if swallowed or in contact with skin
- H314: Causes severe skin burns and eye damage.
- H317: May cause an allergic skin reaction.
- H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

**Prevention:**
- P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P273: Avoid release to the environment.
- P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
- P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310: Immediately call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:
- Trimethylolpropane poly(oxypropylene)triamine
- Polyamide polymer
- 3-aminomethyl-3,5,5-trimethylcyclohexylamine
- Amines, polyethylenepoly-., triethyleneetetramine fraction
- Phenol, 4,4’-(1-methylethyldiene)bis-, polymer with N,N'-bis(2-aminethyl)-1,2-ethenediamine and (chloromethyl)oxirane
- 3,6-diazaoctanediethylendiamin
- Aziridine, homopolymer
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Chemical nature: Heterocyclic and aliphatic amine based mixture

### Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylolpropane poly(oxypropylene)triamine</td>
<td>39423-51-3</td>
<td>Xn; R21/22 Xi; R41 N; R51/53</td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H312 Eye Dam. 1; H318 Aquatic Chronic 2; H411</td>
<td>&gt;= 20 - &lt; 25</td>
</tr>
<tr>
<td>Polyamide polymer</td>
<td>68082-29-1</td>
<td>Xi; R41 Xi; R38 Xi; R43 N; R51/53</td>
<td>Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 2; H411</td>
<td>&gt;= 20 - &lt; 25</td>
</tr>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>2855-13-2 220-666-8 01-2119514687-32</td>
<td>C; R34 Xi; R21/22 R43 R52-R53</td>
<td>Acute Tox. 4; H312 Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412</td>
<td>&gt;= 12.5 - &lt; 20</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)].alpha.-[(2-aminomethylene) .omega.-[(2-aminomethylene)oxirane]-</td>
<td>9046-10-0</td>
<td>C; R34 Xi; R41 R52/53</td>
<td>Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Chronic 2; H411</td>
<td>&gt;= 10 - &lt; 12.5</td>
</tr>
<tr>
<td>Amines, polyethylene-poly-, triethylenetetramine fraction</td>
<td>90640-67-8 292-588-2 01-2119487919-13</td>
<td>Xn; R21 C; R34 Xi; R43 R52/53</td>
<td>Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412</td>
<td>&gt;= 10 - &lt; 12.5</td>
</tr>
<tr>
<td>Phenol, 4,4'-(1-methylethyldiene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane</td>
<td>38294-69-8</td>
<td>C; R34 Xi; R21/22 R43 R52/53</td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412</td>
<td>&gt;= 5 - &lt; 7</td>
</tr>
<tr>
<td>Cyclohex-1,2-ylenediamine</td>
<td>694-83-7 211-776-7 01-2119976312-37</td>
<td>C; R35 Xi; R20/21/22 R37 Xi; R41</td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Corr. 1A;</td>
<td>&gt;= 3 - &lt; 5</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Show this safety data sheet to the doctor in attendance. Keep warm and in a quiet place. Take off all contaminated clothing immediately.

If inhaled: Move to fresh air. Keep patient warm and at rest. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact: Wash off immediately with soap and plenty of water. Do NOT use solvents or thinners. If on clothes, remove clothes. Burns must be treated by a physician.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist. If easy to do, remove contact lens, if worn.

If swallowed: Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately. Give small amounts of water to drink.
4.2 Most important symptoms and effects, both acute and delayed

Symptoms: corrosive effects, Burn

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO2), Foam, Dry powder, Water mist

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: The pressure in sealed containers can increase under the influence of heat. Cool closed containers exposed to fire with water spray. Hazardous decomposition products formed under fire conditions.

5.3 Advice for firefighters

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

Further information: In the event of fire and/or explosion do not breathe fumes. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8. Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.
6.2 Environmental precautions
Environmental precautions:
Do not allow uncontrolled discharge of product into the environment.
Try to prevent the material from entering drains or water courses.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up:
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Pick up and transfer to properly labelled containers.

6.4 Reference to other sections
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours or spray mist.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion:
Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures:
Provide adequate ventilation. Wash hands and face before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions:
Protect from moisture.

Advice on common storage:
Keep away from isocyanates.
Do not store near acids.
Keep away from oxidizing agents.

Other data:
Stable at normal ambient temperature and pressure.
7.3 Specific end use(s)
Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Trimethylolpropane poly(oxypropylene)triamine
- End Use: Workers
  Exposure routes: Skin contact
  Potential health effects: Long-term systemic effects
  Value: 1,6 mg/kg
- End Use: Workers
  Exposure routes: Inhalation
  Potential health effects: Long-term systemic effects
  Value: 14 mg/m³
- End Use: Consumers
  Exposure routes: Skin contact
  Potential health effects: Long-term systemic effects
  Value: 0,8 mg/kg

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{2-aminomethyl(ethyl)}-omega.-{2-aminomethyl(ethoxy)}-
- End Use: Workers
  Exposure routes: Skin contact
  Potential health effects: Long-term systemic effects
  Value: 2,5 mg/kg
- End Use: Workers
  Exposure routes: Inhalation
  Potential health effects: Long-term local effects
  Value: 0,623 mg/cm²
- End Use: Consumers
  Exposure routes: Skin contact
  Potential health effects: Long-term systemic effects
  Value: 1,25 mg/kg
- End Use: Consumers
  Exposure routes: Skin contact
  Potential health effects: Long-term local effects
  Value: 0,311 mg/cm²
- End Use: Consumers
  Exposure routes: Ingestion
  Potential health effects: Long-term systemic effects
  Value: 0,04 mg/kg

Amines, polyethylenepoly-, triethylenetetramine fraction
- End Use: Workers
  Exposure routes: Skin contact
  Potential health effects: Long-term systemic effects
  Value: 0,57 mg/kg
- End Use: Workers
  Exposure routes: Inhalation
  Potential health effects: Long-term systemic effects
  Value: 0,41 mg/kg
Cyclohexane-1,2-diamine: 

- **End Use:** Workers
- **Exposure routes:** Skin contact
- **Potential health effects:** Long-term systemic effects
  - **Value:** 1 mg/m³

3,6-Diazaoctane-1,2-diamine: 

- **End Use:** Workers
- **Exposure routes:** Inhalation
- **Potential health effects:** Long-term systemic effects
  - **Value:** 0,25 mg/kg

Cyclohexane-1,2-ylenediamine: 

- **End Use:** Workers
- **Exposure routes:** Skin contact
- **Potential health effects:** Long-term exposure
  - **Value:** 1,5 mg/kg

3,6-Diazaoctane-1,2-ylenediamine: 

- **End Use:** Workers
- **Exposure routes:** Inhalation
- **Potential health effects:** Systemic effects
  - **Value:** 5380 mg/m³

- **End Use:** Workers
- **Exposure routes:** Skin contact
- **Potential health effects:** Long-term systemic effects
  - **Value:** 0,57 mg/kg
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 120 B +

Version 1.0 [2.0 SDB_GB]  Revision Date 04.11.2014  Print Date 05.11.2014

Value: 0,25 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0,29 mg/m³
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,41 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,43 mg/cm²

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Trimethylolpropane poly(oxypropylene)triamine

: Fresh water
Value: 0,0044 mg/l
Marine water
Value: 0,00044 mg/l
Intermittent releases
Value: 0,044 mg/l
Fresh water sediment
Value: 0,02 mg/kg
Marine sediment
Value: 0,002 mg/kg
Soil
Value: 0,002 mg/kg
Sewage treatment plant
Value: 10 mg/l

3-aminomethyl-3,5,5-trimethylcyclohexylamine

: Fresh water
Value: 0,06 mg/l
Marine water
Value: 0,006 mg/l
Intermittent releases
Value: 0,23 mg/l
Fresh water sediment
Value: 5,784 mg/kg
Marine sediment
Value: 0,578 mg/kg
Sewage treatment plant
Value: 3,18 mg/l
Soil
Value: 1,121 mg/kg

Poly[oxy(methyl-1,2-ethanediyl)].α.- (2-aminomethylethyl)].ω.- (2-aminomethylethoxy).

: Fresh water
Value: 0,015 mg/l
Marine water
Value: 0,0143 mg/l
Fresh water sediment
Value: 0,132 mg/kg
Marine sediment
Value: 0,125 mg/kg
Soil Value:
0,0176 mg/kg
Intermittent releases
Amines, polyethylene-poly-, triethylenetetramine fraction: Sewage treatment plant
- Value: 0,15 mg/l
- Value: 7,5 mg/l

Fresh water Value: 0,135 mg/l
- Value: 2,08 mg/kg

Marine water
- Value: 0,0027 mg/l
- Value: 0,123 mg/kg

Soil
- Value: 1,67 mg/kg

Cyclohex-1,2-ylene diamine: Fresh water
- Value: 0,42 mg/l
- Value: 0,042 mg/l
- Value: 0,42 mg/l

Intermittent releases

Marine water
- Value: 0,0027 mg/l

Soil
- Value: 1,67 mg/kg

3,6-diazaocatane diylene diamine: Fresh water
- Value: 0,19 mg/l
- Value: 0,038 mg/l

Fresh water sediment
- Value: 95,9 mg/kg

Marine sediment
- Value: 19,2 mg/kg

Soil Value: 19,1 mg/kg

Sewage treatment plant
- Value: 4,25 mg/l

**8.2 Exposure controls**

**Engineering measures**
- Effective exhaust ventilation system
- Effective ventilation in all processing areas

**Personal protective equipment**

**Eye protection**: Safety glasses with side-shields conforming to EN166

Do not wear contact lenses.

Ensure that eyewash stations and safety showers are close to the workstation location.

**Hand protection**
- **Material**: Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

**Skin and body protection**: Protective suit

**Respiratory protection**: Use respirator when performing operations involving potential exposure to vapour of the product.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration.
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

**EPROPOX HC 120 B +**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>Print Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>04.11.2014</td>
<td>05.11.2014</td>
</tr>
</tbody>
</table>

(gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. 

Respirator with a vapour filter (EN 141)

Protective measures: Avoid contact with skin.

Wear suitable protective equipment.

---

**SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>blue</td>
</tr>
<tr>
<td>Odour</td>
<td>ammoniacal</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>not determined</td>
</tr>
<tr>
<td>pH</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>&gt; 150 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>100 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>0.98 g/cm³ (25 °C)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>not determined</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>not determined</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>Method: No data available</td>
</tr>
</tbody>
</table>

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(Continued on next page...)

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Viscosity
Viscosity, dynamic : 200 - 350 mPa.s (25 °C)

Viscosity, kinematic : not determined

Explosive properties : Not applicable

Oxidizing properties : Not applicable

9.2 Other information
Surface tension : not determined
Sublimation point : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity
Stable under recommended storage conditions.

10.2 Chemical stability
No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions
Hazardous reactions : Reacts with the following substances:
Acids
Strong oxidizing agents

10.4 Conditions to avoid
Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials
Materials to avoid : Strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products : This product may release the following:
Nitrogen oxides (NOx)
Carbon monoxide
Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity

Product:
Acute oral toxicity: Acute toxicity estimate: 1.018 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: 1.874 mg/kg
Method: Calculation method

Components:

**Trimethylolpropane poly(oxypropylene)triamine:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LD50 (Rat, female): 550 mg/kg</td>
<td>LD50 (Rat, male and female): &gt; 1.000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 425</td>
<td>Method: OECD Test Guideline 402</td>
</tr>
</tbody>
</table>

**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute toxicity estimate: 500 mg/kg</td>
<td>Acute toxicity estimate: 1.100 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: Converted acute toxicity point estimate</td>
<td>Method: Converted acute toxicity point estimate</td>
</tr>
</tbody>
</table>

**Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethyl)ethyloxy}:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LD50 (Rat, male and female): 2.885,3 mg/kg</td>
<td>LD50 (Rabbit, male and female): 2.979,7 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 401</td>
<td>Method: OECD Test Guideline 402</td>
</tr>
</tbody>
</table>

**Amines, polyethylenepoly-, triethylenetetramine fraction:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LD50 (Rat, male and female): 1.716 mg/kg</td>
<td>LD50 (Rabbit, male and female): 1.465 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 401</td>
<td>Method: OECD Test Guideline 402</td>
</tr>
</tbody>
</table>

**3,6-diazaocanethylenediamin:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LD50 (Rat, male): 1.716 mg/kg</td>
<td>LD50 (Rabbit): 1.465 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 401</td>
<td>Method: OECD Test Guideline 402</td>
</tr>
</tbody>
</table>

GLP: yes
Skin corrosion/irritation

**Product:**
Remarks: Acute dermal irritation/corrosion

**Components:**
Trimethylolpropane poly(oxypropylene)triamine:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Mild skin irritation
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethyl)ethy}-omega.-{(2-
aminomethylethoxy)}-:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive

Amines, polyethylenepoly-, triethylenetetramine fraction:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive
GLP: yes

3,6-diazaoctanethylenediamin:
Method: OECD Test Guideline 435
Result: Corrosive

Serious eye damage/eye irritation

**Product:**
Remarks: Severe eye irritation

**Components:**
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethyl)ethy}-omega.-{(2-
aminomethylethoxy)}-:
Method: OECD Test Guideline 405
Result: Risk of serious damage to eyes.

Amines, polyethylenepoly-, triethylenetetramine fraction:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Risk of serious damage to eyes.
GLP: yes

3,6-diazaoctanethylenediamin:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Risk of serious damage to eyes.
GLP: yes
Respiratory or skin sensitisation

**Product:**
Remarks: No data available

**Components:**
**Trimethylolpropane poly(oxypropylene)triamine:**
Test Type: Buehler Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
GLP: yes

**Amines, polyethylenepoly-, triethylenetetramine fraction:**
Test Type: Buehler Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.
GLP: yes

**3,6-diazaoctanethylenediamin:**
Test Type: Buehler Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.
GLP: yes

Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Repeated dose toxicity

**Product:**
Remarks: No data available

Aspiration toxicity

**Components:**
**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**
No aspiration toxicity classification

Further information

**Product:**
Remarks: No data available
SECTION 12: Ecological information

12.1 Toxicity

**Product:**
- Toxity to fish: Remarks: No data available
- Toxity to daphnia and other aquatic invertebrates: Remarks: No data available

**Components:**

--- Trimethylolpropane poly(oxypropylene)triamine:
- Toxity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
  Exposure time: 96 h
  Test Type: static test
  Method: OECD Test Guideline 203
  GLP: yes

- Toxity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 13 mg/l
  Exposure time: 48 h
  Test Type: static test
  Method: OECD Test Guideline 202
  GLP: yes

- Toxity to algae: ErC50 (Pseudokirchneriella subcapitata (green algae)): 4.4 mg/l
  Exposure time: 72 h
  Test Type: static test
  Method: OECD Test Guideline 201
  GLP: yes
  NOEC (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
  Exposure time: 72 h
  Test Type: static test
  Method: OECD Test Guideline 201
  GLP: yes

--- 3-aminomethyl-3,5,5-trimethylcyclohexylamine:
- Toxity to fish: LC50 (Leudiscus idus (Golden orfe)): 110 mg/l
  Exposure time: 96 h
  Test Type: semi-static test
  GLP: yes

- Toxity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 23 mg/l
  Exposure time: 48 h
  Test Type: static test
  Method: OECD Test Guideline 202
  GLP: yes

- Toxity to algae: ErC50 (Scenedesmus capricornutum (fresh water algae)): >
<table>
<thead>
<tr>
<th>Substance Description</th>
<th>Toxicity to Daphnia and Other Aquatic Invertebrates</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mg/l Exposition time: 72 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.3. GLP: yes</td>
<td>NOEC: 3 mg/l Exposition time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test GLP: yes</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): &gt; 15 mg/l Exposition time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes</td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 0,32 mg/l Exposition time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{2-aminomethylethyl}-omega.-{2-aminomethylethoxy}]:</td>
<td>EC50 (Daphnia magna (Water flea)): 80 mg/l Exposition time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin:</td>
<td>EC50 (Daphnia magna (Water flea)): 31,1 mg/l Exposition time: 48 h Test Type: static test GLP: yes</td>
<td></td>
<td>ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l Exposition time: 72 h Test Type: semi-static test Method: OECD Test Guideline 201 GLP: yes</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin:</td>
<td>EC50 (Daphnia magna (Water flea)): 31,1 mg/l Exposition time: 48 h Test Type: static test GLP: yes</td>
<td></td>
<td>ErC50 (Selenastrum capricornutum (green algae)): Exposure time: 72 h Test Type: semi-static test</td>
</tr>
</tbody>
</table>
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Method: OECD Test Guideline 201
GLP: yes

12.2 Persistence and degradability

Product:
Biodegradability : Remarks: No data available

Components:
Trimethylolpropane poly(oxypropylene)triamine:
Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-aminomethylhexyl]-.omega.-[2-aminomethylhexoxy]-:
Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
GLP: yes

cyclohex-1,2-ylenediamine:
Biodegradability : Test Type: aerobic
Result: Readily biodegradable.
Method: OECD Test Guideline 301D
GLP: yes

3,6-diazaoctanethylenediamin:
Biodegradability : Test Type: aerobic
Result: Not readily biodegradable.
Method: OECD Test Guideline 301D
GLP: yes

12.3 Bioaccumulative potential

Product:
Bioaccumulation : Remarks: No data available

Components:
Trimethylolpropane poly(oxypropylene)triamine:
Partition coefficient: n-octanol/water : log Pow: -1,13 (20 °C)
  pH: 12,7
  GLP: yes

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

| Product | In accordance with local and national regulations. Container hazardous when empty. Do not dispose of with domestic refuse. Do not mix waste streams during collection. |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. |

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

**Product:**
- **Assessment:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6 Other adverse effects

**Product:**
- **Remarks:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### SECTION 14: Transport information

#### 14.1 UN number

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR/RID</strong></td>
<td>UN 2735</td>
<td>UN 2735</td>
</tr>
</tbody>
</table>

#### 14.2 UN proper shipping name

**ADR/RID**: AMINES, LIQUID, CORROSIVE, N.O.S. (Trimethylolpropane poly(oxypropylene)triamine, Polyamide
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IMDG : AMINES, LIQUID, CORROSIVE, N.O.S.
(Trimethylolpropane poly(oxypropylene)triamine, Polyamide polymer)

IATA : Amines, liquid, corrosive, n.o.s.
(Trimethylolpropane poly(oxypropylene)triamine, Polyamide polymer)

14.3 Transport hazard class(es)

ADR/RID : 8
IMDG : 8
IATA : 8

14.4 Packing group

ADR/RID
Packing group : III
Classification Code : C7
Hazard Identification Number : 80
Labels : 8

IMDG
Packing group : III
Labels : 8
EmS Code : F-A, S-B

IATA
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852
Packing group : III
Labels : 8

14.5 Environmental hazards

ADR/RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
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REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
REACH - List of substances subject to authorisation (Annex XIV)


9b Dangerous for the environment

<table>
<thead>
<tr>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 t</td>
<td>500 t</td>
</tr>
</tbody>
</table>

15.2 Chemical Safety Assessment
Not applicable

SECTION 16: Other information

Full text of R-Phrases
R20/21/22 : Harmful by inhalation, in contact with skin and if swallowed.
R21 : Harmful in contact with skin.
R21/22 : Harmful in contact with skin and if swallowed.
R22 : Harmful if swallowed.
R34 : Causes burns.
R35 : Causes severe burns.
R36/38 : Irritating to eyes and skin.
R37 : Irritating to respiratory system.
R38 : Irritating to skin.
R41 : Risk of serious damage to eyes.
R43 : May cause sensitisation by skin contact.
R51:53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52 : Harmful to aquatic organisms.
R52:53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53 : May cause long-term adverse effects in the aquatic environment.

Full text of H-Statements
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H314 : Causes severe skin burns and eye damage.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H32 : Harmful if inhaled.
H335 : May cause respiratory irritation.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
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<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic</td>
<td>Chronic aquatic toxicity</td>
</tr>
<tr>
<td>Eye Dam.</td>
<td>Serious eye damage</td>
</tr>
<tr>
<td>Eye Irrit.</td>
<td>Eye irritation</td>
</tr>
<tr>
<td>Skin Corr.</td>
<td>Skin corrosion</td>
</tr>
<tr>
<td>Skin Irrit.</td>
<td>Skin irritation</td>
</tr>
<tr>
<td>Skin Sens.</td>
<td>Skin sensitisn</td>
</tr>
<tr>
<td>STOT SE</td>
<td>Specific target organ toxicity - single exposure</td>
</tr>
</tbody>
</table>

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