SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 120 B

Version 10.0 [3.0 SDB_GB] Revision Date 20.10.2014 Print Date 03.11.2014

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 sensitisisation, 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:

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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-methylethyldene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediame (or (chloromethyl)oxirane

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-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</td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 20 - &lt; 25</td>
<td></td>
</tr>
<tr>
<td>Polyamide polymer</td>
<td>68082-29-1</td>
<td>Xn; R41</td>
<td>Skin Irrit. 2; H315</td>
<td>&gt;= 20 - &lt; 25</td>
<td></td>
</tr>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>2855-13-2</td>
<td>C; R34</td>
<td>Acute Tox. 4; H312</td>
<td>&gt;= 12.5 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>Amines, polyethylene-poly. triethylenetetramine fraction</td>
<td>90640-67-8</td>
<td>Xn; R21</td>
<td>Acute Tox. 4; H312</td>
<td>&gt;= 12.5 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], .alpha.- (2-aminoethylethoxy)- .omega.- (2-aminoethylthoxy)</td>
<td>9046-10-0</td>
<td>C; R34</td>
<td>Skin Corr. 1C</td>
<td>&gt;= 10 - &lt; 12.5</td>
<td></td>
</tr>
<tr>
<td>Phenol, 4,4’-(1-methylene)dibis-.polymer with N,N’-bis(2-aminooctyl)-1,2-ethanediamine and (chloromethyl)oxirane</td>
<td>38294-69-8</td>
<td>C; R34</td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 5 - &lt; 7</td>
<td></td>
</tr>
<tr>
<td>Cyclohex-1,2-ylenediamine</td>
<td>694-83-7</td>
<td>C; R35</td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 3 - &lt; 5</td>
<td></td>
</tr>
<tr>
<td>2,4,6-</td>
<td>90-72-2</td>
<td>Xn; R22</td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 1 - &lt; 3</td>
<td></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

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Carbon dioxide (CO2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Foam</td>
</tr>
<tr>
<td></td>
<td>Dry powder</td>
</tr>
<tr>
<td></td>
<td>Water mist</td>
</tr>
</tbody>
</table>

| 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 groundwater 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, |

5 / 21
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

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: 1 mg/m3
- End Use: Consumer use
- Exposure routes: Skin contact
- Potential health effects: Long-term systemic effects
- Value: 0.25 mg/kg
- End Use: Consumers
- Exposure routes: Inhalation
- Potential health effects: Long-term systemic effects
- Value: 0.29 mg/m3

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethyl)-omega.-(2-aminomethylethoxy)-

- End Use: Workers
- Exposure routes: Skin contact
- 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

Cyclohex-1,2-ylendiamine

- End Use: Workers
- Exposure routes: Skin contact
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Potential health effects:
Long-term exposure
Value: 1.5 mg/kg
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term exposure
Value: 0.5 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure
Value: 0.25 mg/m³

End use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 450 mg/m³
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 90 mg/m³
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 9.5 mg/kg
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Short-term exposure, Systemic effects
Value: 25 mg/kg
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term exposure, Systemic effects
Value: 5 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 40.55 mg/m³
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 8.11 mg/m³
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 28.5 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 5.7 mg/kg

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

<table>
<thead>
<tr>
<th>Compound</th>
<th>Exposure Route</th>
<th>Fresh Water</th>
<th>Marine Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylolpropane poly(oxypropylene)triamine</td>
<td>Ingestion</td>
<td>Value: 0.0044 mg/l</td>
<td>Value: 0.00044 mg/l</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>Inhalation</td>
<td>Value: 450 mg/m³</td>
<td>Value: 90 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Skin contact</td>
<td>Value: 450 mg/m³</td>
<td>Value: 90 mg/m³</td>
</tr>
<tr>
<td>Substance</td>
<td>Value</td>
<td>Media</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>------------------------------</td>
<td></td>
</tr>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>Value: 0,044 mg/l</td>
<td>Fresh water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,02 mg/kg</td>
<td>Marine sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,002 mg/kg</td>
<td>Soil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,002 mg/kg</td>
<td>Sewage treatment plant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 10 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amines, polyethylenepoly-, triethylenetetramine fraction</td>
<td>Value: 0,06 mg/l</td>
<td>Fresh water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,006 mg/l</td>
<td>Marine water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,23 mg/l</td>
<td>Intermittent releases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 5,784 mg/kg</td>
<td>Fresh water sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,578 mg/kg</td>
<td>Marine sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 3,18 mg/l</td>
<td>Soil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 1,121 mg/kg</td>
<td>Sewage treatment plant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 4,25 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poly(oxy(methyl-1,2-ethanediyl)],_alpha.-{(2-aminomethyl(ethyl)-omega.-{(2-aminomethyl(ethoxy)-cyclohex-1,2-ylenediamine</td>
<td>Value: 0,015 mg/l</td>
<td>Fresh water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,0143 mg/l</td>
<td>Marine water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,132 mg/kg</td>
<td>Fresh water sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,125 mg/kg</td>
<td>Marine sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,0176 mg/kg</td>
<td>Soil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,15 mg/l</td>
<td>Intermittent releases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 7,5 mg/l</td>
<td>Sewage treatment plant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,42 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 0,042 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Intermittent releases
Value: 0,42 mg/l

benzyl alcohol
Fresh water
Value: 1 mg/l
Marine water
Value: 0,1 mg/l
Fresh water sediment
Value: 5,27 mg/kg
Marine sediment
Value: 0,527 mg/kg
Soil
Value: 0,456 mg/kg
Sewage treatment plant
Value: 39 mg/l
Intermittent releases
Value: 2,3 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 (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

Appearance
liquid

Colour
blue
Odour

Odour Threshold

pH

Melting point/freezing point

Boiling point/boiling range

Flash point

Evaporation rate

Upper explosion limit

Lower explosion limit

Vapour pressure

Relative vapour density

Density

Bulk density

Solubility(ies)

Solubility in other solvents

Partition coefficient: n-octanol/water

Auto-ignition temperature

Thermal decomposition

Viscosity

Viscosity, dynamic

Viscosity, kinematic

Explosive properties

Oxidizing properties

9.2 Other information

Surface tension

Sublimation point
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: 1.012 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: 1.871 mg/kg
Method: Calculation method

Components:
Trimethylolpropane poly(oxypropylene)triamine:
Acute oral toxicity: LD50 (Rat, female): 550 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Acute dermal toxicity: LD50 (Rat, male and female): > 1.000 mg/kg
   Method: OECD Test Guideline 402
   GLP: yes

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
   Method: Converted acute toxicity point estimate
Acute dermal toxicity: Acute toxicity estimate: 1.100 mg/kg
   Method: Converted acute toxicity point estimate

Amines, polyethylenepoly-, triethylenetetramine fraction:
Acute oral toxicity: LD50 (Rat, male and female): 1.716 mg/kg
   Method: OECD Test Guideline 401
   GLP: yes
Acute dermal toxicity: LD50 (Rabbit, male and female): 1.465 mg/kg
   Method: OECD Test Guideline 402
   GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-{(2-aminomethylethyl)-omega.-{(2-
aminomethylethoxy)-}: Acute oral toxicity: LD50 (Rat, male and female): 2.885,3 mg/kg
   Method: OECD Test Guideline 401
   GLP: yes
Acute dermal toxicity: LD50 (Rabbit, male and female): 2.979,7 mg/kg
   Method: OECD Test Guideline 402
   GLP: yes

benzyl alcohol:
Acute inhalation toxicity: LC50 (Rat, male and female): > 4.178 mg/l
   Exposure time: 4 h
   Test atmosphere: dust/mist
   Method: OECD Test Guideline 403
   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

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

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

*benzyl alcohol*:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

**Serious eye damage/eye irritation**

**Product:**
Remarks: Severe eye irritation

**Components:**

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

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

*benzyl alcohol*:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Eye irritation
GLP: yes

**Respiratory or skin sensitisation**

**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
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Aspiration toxicity

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

SECTION 12: Ecological information

12.1 Toxicity

Components:
Trimethylolpropane poly(oxypropylene)triamine:
Toxicity 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

Toxicity 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

Toxicity 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:
Toxicity to fish: LC50 (Leuciscus idus (Golden orfe)): 110 mg/l
Exposure time: 96 h
Test Type: semi-static test
GLP: yes
Toxicity 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

Toxicity to algae: ErC50 (Scenedesmus capricornutum (fresh water algae)): > 50 mg/l
Exposure time: 72 h
Test Type: static test
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
GLP: yes

Amines, polyethylenepoly-, triethylenetetramine fraction:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 31,1 mg/l
Exposure time: 48 h
Test Type: static test
GLP: yes

Toxicity to algae: ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l
Exposure time: 72 h
Test Type: semi-static test
Method: OECD Test Guideline 201
GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.- (2-aminomethylethyl).omega.- (2-aminomethylethoxy)-:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 15 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 80 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae: NOEC (Pseudokirchneriella subcapitata (green algae)): 0,32 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

benzyl alcohol:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 230 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae: ErC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

### 12.2 Persistence and degradability

**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-aminomethylethyl)-omega.-[(2-aminomethylethoxy)-]:
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

### 12.3 Bioaccumulative potential

**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:
Partition coefficient: n-octanol/water
: log Pow: 0.99
Method: OECD Test Guideline 107
GLP: yes
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Poly[oxy(methyl-1,2-ethanediyl)], _alpha_-(2-aminomethyl)-omega-(2-aminomethylthioxy)-:
Partition coefficient: n-octanol/water : log Pow: 1.34 (25 °C)
Method: OECD Test Guideline 117
GLP: yes

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:  
Additional ecological information : Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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.

SECTION 14: Transport information

14.1 UN number

ADR/RID : UN 2735  
IMDG : UN 2735  
IATA : UN 2735

14.2 UN proper shipping name

ADR/RID : AMINES, LIQUID, CORROSIVE, N.O.S.  
           (Isophorone diamine)
IMDG : AMINES, LIQUID, CORROSIVE, N.O.S.  
       (Isophorone diamine)
IATA : Amines, liquid, corrosive, n.o.s.
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
- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
- REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

9b Dangerous for the environment

<table>
<thead>
<tr>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
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<tbody>
<tr>
<td>200 t</td>
<td>500 t</td>
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</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.
R20/22 : Harmful by inhalation 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.
H332 : 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
Aquatic Chronic : Chronic aquatic toxicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT SE : Specific target organ toxicity - single exposure

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