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

EPROPOX HC 60 B

Version 8.0 [3.0 SDB_GB] Revision Date 28.10.2014 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 60 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.
Skin corrosion, Category 1A : 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 : R35: Causes severe 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:

- Danger

Signal word:

Hazard statements:
- H302: Harmful if swallowed.
- 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:

Polyamide polymer

Trimethylolpropane poly(oxypropylene)triamine

cyclohex-1,2-ylendiamine

Amines, polyethylenepoly-, triethylenetetramine fraction

2-piperazin-1-ylethylamine

Phenol, 4,4’-(1-methyleneidene)bis-, polymer with N,N’-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane

3,6-diazaoctanethylenediamin
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: Aliphatic Amine

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No. EC-No. Registration number</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<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;= 25 - &lt; 30</td>
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<tr>
<td>Trimethylpropane 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>
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<tr>
<td>Poly(oxy(methyl-1,2-ethanediyl)), .alpha.-(2-aminoethyl)-.omega.-(2-aminoethylhexoy)-</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>
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<tr>
<td>cyclohex-1,2-ylenediamine</td>
<td>694-83-7 211-776-7 01-2119976312-37</td>
<td>C; R35 Xn; R20/21/22 Xi; R37 Xi; R41</td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H312 Acute Tox. 4; H312 Skin Corr. 1A; H314 Eye Dam. 1; H318 Aquatic Chronic 2; H411</td>
<td>&gt;= 10 - &lt; 12,5</td>
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<tr>
<td>Amines, polyethylene-poly., triethylenetetramine fraction</td>
<td>90540-67-8 292-588-2 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;= 7 - &lt; 10</td>
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<tr>
<td>2-piperazin-1-ylethylamine</td>
<td>140-31-8 205-411-0 01-2119471486-30</td>
<td>C; R34 Xn; R21/22 R43 R52-R53</td>
<td>Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412 Acute Tox. 3; H311 1; H318</td>
<td>&gt;= 3 - &lt; 5</td>
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<tr>
<td>Phenol, 4,4’-(1-methyleneidene)bis-, polymer with N,N’-bis[2-</td>
<td>38294-69-8</td>
<td>C; R34 Xn; R21/22 R43</td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B;</td>
<td>&gt;= 3 - &lt; 5</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B

Version 8.0 [3.0 SDB_GB]  Revision Date 28.10.2014  Print Date 03.11.2014

<table>
<thead>
<tr>
<th>Chemicals</th>
<th>R phrases</th>
<th>H phrases</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>aminooethyl)-1,2-ethanediame and (chloromethyl)oxirane</td>
<td>R52/53</td>
<td>H314</td>
<td>Skin Sens. 1; H317 Aquatic Chronic 3;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>H412</td>
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<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>Xn; R22</td>
<td>Acute Tox. 4; H302 Eye Irrit. 2; H319 Skin</td>
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<td>X; R36/38</td>
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<td>Irrit. 2; H315</td>
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<td>&gt;= 3 - &lt; 5</td>
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<tr>
<td>3,6-diazaoctanethyl-enediamin</td>
<td>C; R34</td>
<td>Acute Tox. 4; H312 Skin Corr. 1B;</td>
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<td></td>
<td>Xn; R21/22</td>
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<td>H314</td>
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<tr>
<td></td>
<td>R43</td>
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<td>Skin Sens. 1; H317 Aquatic Chronic 3;</td>
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<td>R52/53</td>
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<td>H412</td>
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<tr>
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<td></td>
<td>&gt;= 3 - &lt; 5</td>
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<td>benzyl alcohol</td>
<td>Xn; R20/22</td>
<td>Acute Tox. 4; H32 Acute Tox. 4; H302</td>
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<td></td>
<td></td>
<td>&gt;= 1 - &lt; 3</td>
<td></td>
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<td>Low boiling point naphtha - unspecified</td>
<td>Xn; R65</td>
<td>STOT SE 3; H336, H335 Asp. Tox. 1; H304</td>
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</tr>
<tr>
<td></td>
<td>N; R51/53</td>
<td></td>
<td>Aquatic Chronic 2; H411 Flam. Liq. 3; H226</td>
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<td></td>
<td>R10</td>
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<td>R67</td>
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<td></td>
<td>X; R37</td>
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<tr>
<td></td>
<td></td>
<td>&gt;= 0.25 - &lt; 0.5</td>
<td></td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

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.
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: Keep containers tightly closed in a dry, cool and well-
areas and containers: 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: Inhalation
  - Potential health effects: Long-term systemic effects
    - Value: 3.48 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-aminomethylethyl)-.omega.-(2-aminomethylethoxy)**
  - End Use: Workers
  - Exposure routes: Skin contact
  - Potential health effects: Long-term systemic effects
    - Value: 2.5 mg/kg
  - 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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B

Version 8.0 [3.0 SDB_GB] Revision Date 28.10.2014 Print Date 03.11.2014

Value: 0,311 mg/cm2
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,04 mg/kg

End Use: Workers
Exposure routes: Skin contact
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

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

2-piperazin-1-ylethylamine

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 20 mg/kg

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Local effects
Value: 0,04 mg/cm2

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 3,3 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 3,6 mg/m3

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,006 mg/cm2

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 10 mg/kg
Use: Consumers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 5,3 mg/m³
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Short-term exposure, Systemic effects
Value: 1,5 mg/kg
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 21,4 mg/m³
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Local effects
Value: 5,3 mg/m³
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 1,7 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 0,9 mg/m³
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,3 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,003 mg/cm²
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, 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
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 1 mg/m³
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,028 mg/cm²
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 8 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B

Value: 1600 mg/m³
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Short-term exposure, Systemic effects
Value: 20 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Local effects, Short-term exposure
Value: 1 mg/cm²
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Local effects, Short-term exposure
Value: 20 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0.25 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Local effects, Long-term systemic effects
Value: 0.43 mg/cm²
End Use: Consumers

brazil alcohol

Value: 0.29 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 0.41 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Local effects, Long-term systemic effects
Value: 47 mg/kg
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 90 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Local effects, Long-term systemic effects
Value: 450 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 9.5 mg/kg
End Use: Consumers
Exposure routes: Inhalation
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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B

Version 8.0 [3.0 SDB_GB]
Revision Date 28.10.2014
Print Date 03.11.2014

Low boiling point naphtha - unspecified
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
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 25 mg/kg
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 150 mg/m3
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term exposure, Systemic effects
Value: 11 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term exposure, Systemic effects
Value: 32 mg/m3
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term exposure, Systemic effects
Value: 11 mg/kg

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

Trimethylolpropane poly(oxypropylene)triamine
Value: 0,0044 mg/l
Fresh water
Value: 0,00044 mg/l
Marine water
Value: 0,044 mg/l
Intermittent releases
Value: 0,02 mg/kg
Fresh water sediment
Value: 0,002 mg/kg
Marine sediment
Value: 0,002 mg/kg
Soil
Value: 0,015 mg/l
Sewage treatment plant
Value: 10 mg/l

Poly[oxy(methyl-1,2-ethanediyl)].alpha.-[2-aminomethyl(ethyl)].omega.-[2-aminomethylethoxy]-
Value: 0,0143 mg/l
Marine water
Value: 0,132 mg/kg
Fresh water sediment
Value: 0,125 mg/kg
Marine sediment
Soil
cyclohex-1,2-ylene diamine

- Fresh water: Value: 0.42 mg/l
- Marine water: Value: 0.042 mg/l
- Intermittent releases: Value: 0.42 mg/l

Amines, polyethylenepoly-, triethylenetetramine fraction

- Sewage treatment plant: Value: 4.25 mg/l
- Fresh water: Value: 0.135 mg/l
- Fresh water sediment: Value: 2.08 mg/kg
- Marine water: Value: 0.0027 mg/l
- Marine sediment: Value: 0.123 mg/kg
- Soil: Value: 1.67 mg/kg

2-piperazin-1-ylethylamine

- Fresh water: Value: 0.058 mg/l
- Marine water: Value: 0.0058 mg/l
- Intermittent releases: Value: 0.58 mg/l
- Fresh water sediment: Value: 215 mg/kg
- Marine water: Value: 0.19 mg/l
- Marine sediment: Value: 19.2 mg/kg
- Soil: Value: 42.9 mg/kg
- Sewage treatment plant: Value: 250 mg/l

3,6-diazaoctanethylenediamin

- Fresh water: Value: 0.19 mg/l
- Marine water: 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

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: 0.1 mg/l
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006  

EPROPOX HC 60 B  

<table>
<thead>
<tr>
<th>Version 8.0 [3.0 SDB_GB]</th>
<th>Revision Date 28.10.2014</th>
<th>Print Date 03.11.2014</th>
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</thead>
</table>

- 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  
extensive 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**: 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/particles) 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**: amber  
- **Odour**: ammoniacal  
- **Odour Threshold**: not determined  
- **pH**: not determined  
- **Melting point/freezing point**: Not applicable  
- **Boiling point/boiling range**: > 200 °C
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B
Version 8.0 [3.0 SDB_GB] Revision Date 28.10.2014 Print Date 03.11.2014

Flash point : 100 °C
Evaporation rate : not determined
Upper explosion limit : Not applicable
Lower explosion limit : Not applicable
Vapour pressure : Not applicable
Relative vapour density : not determined
Density : 0,95 g/cm3 (25 °C)
Bulk density : not determined
Solubility(ies)
   Solubility in other solvents : not determined
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : Not applicable
Thermal decomposition : Method: No data available
Viscosity
   Viscosity, dynamic : 150 - 300 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 : 1.039 mg/kg
  Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 20 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour
  Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 2.000 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

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

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

**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

**2-piperazin-1-yethylamine**:  
**Acute oral toxicity**: LD50 (Rat, male): 2.097 mg/kg

**Acute dermal toxicity**: LD50 (Rabbit, male): 866 mg/kg

**3,6-diazoctanethylenediamin**:  
**Acute oral toxicity**: LD50 (Rat, male): 1.716 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

**Acute dermal toxicity**: LD50 (Rabbit): 1.465 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

**Low boiling point naphtha - unspecified**:  
**Acute oral toxicity**: LD50 (Rat): > 2.000 mg/kg

**Acute inhalation toxicity**: LC50 (Rat): > 5 mg/l  
Exposure time: 4 h

**Acute dermal toxicity**: LD50 (Rabbit, male and female): > 3.160 mg/kg  
Method: OECD Test Guideline 402

**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-aminomethylethyl)-.omega.- (2-aminomethylthoxy)-:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive

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

2-piperazin-1-ylethylamine:
Species: Rabbit
Result: Corrosive

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

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

Low boiling point naphtha - unspecified:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

Serious eye damage/eye irritation

Product:
Remarks: Severe eye irritation

Components:
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.- (2-aminomethylethyl)-.omega.- (2-aminomethylthoxy) -:
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

2-piperazin-1-ylethylamine:
Species: Rabbit
Result: Risk of serious damage to eyes.

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

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

**Low boiling point naphtha - unspecified:**  
Species: Rabbit  
Method: OECD Test Guideline 405  
Result: No eye irritation  
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, polyethylenopoly-, triethylenetetramine fraction:**  
Test Type: Buehler Test  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: May cause sensitisation by skin contact.  
GLP: yes

**2-piperazin-1-ylethylamine:**  
Test Type: Maximisation Test (GPMT)  
Exposure routes: Dermal  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: May cause sensitisation by skin contact.

**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:**
Low boiling point naphtha - unspecified:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Further information

**Product:**
Remarks: No data available

---

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Product:**
Toxicity to fish
Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates
Remarks: No data available

**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

**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

**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

**2-piperazin-1-ylethylamine:**

**Toxicity to fish:**  
- **LC50** (Pimephales promelas (fathead minnow)): 2.190 mg/l  
  Exposure time: 96 h  
  Test Type: static test

**Toxicity to daphnia and other aquatic invertebrates:**  
- **EC50** (Daphnia magna (Water flea)): 58 mg/l  
  Exposure time: 48 h
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): > 1.000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

3,6-diazaoctanethylenediamin:
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)): Exposure time: 72 h
Test Type: semi-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

Low boiling point naphtha - unspecified:
Toxicity to fish : LL50 (Fish): 9,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
Toxicity to algae : EC50 (Pseudokirchneriella subcapitata): 2,6 mg/l
Exposure time: 72 h
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

**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

**2-piperazin-1-ylethylamine:**
- **Biodegradability:**
  - Result: Not readily biodegradable
  - Method: OECD Test Guideline 301F
  - GLP: yes

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

**Low boiling point naphtha - unspecified:**
- **Biodegradability:**
  - Result: Readily biodegradable
  - Method: OECD Test Guideline 301F

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

**Poly[(oxy(methyl-1,2-ethanediyl]), -alpha.-(-2-aminomethylethyl).-omega.-(-2-aminomethylethoxy)]:**
- **Partition coefficient: n-octanol/water:**
  - log Pow: 1.34 (25 °C)
  - Method: OECD Test Guideline 117
  - GLP: yes
12.4 Mobility in soil

Components:

2-piperazin-1-ylethylamine:
Partition coefficient: n-octanol/water

: log Pow: -1.48 (20 °C)

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. (Polyamide polymer)

IMDG

: AMINES, LIQUID, CORROSIVE, N.O.S.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

EPROPOX HC 60 B

(Polyamide polymer)

IATA : Amines, liquid, corrosive, n.o.s.
(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) : Low boiling point naphtha - unspecific
2-methoxy-1-methylethyl acetate

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 : Not applicable
(Annex XIV)


<table>
<thead>
<tr>
<th>9b</th>
<th>Dangerous for the environment</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 t</td>
<td>500 t</td>
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</table>

| 13  | Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams) | 2.500 t | 25.000 t |

15.2 Chemical Safety Assessment
Not applicable

SECTION 16: Other information

Full text of R-Phrases

R10 : Flammable.
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.
R65 : Harmful: may cause lung damage if swallowed.
R66 : Repeated exposure may cause skin dryness or cracking.
R67 : Vapours may cause drowsiness and dizziness.

Full text of H-Statements

H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H311 : Toxic in contact with skin.
H312 : Harmful in contact with skin.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006
EPROPOX HC 60 B

Version 8.0 [3.0 SDB_GB]  Revision Date 28.10.2014  Print Date 03.11.2014

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.
H332 : May cause respiratory irritation.
H335 : May cause drowsiness or dizziness.
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
Asp. Tox. : Aspiration hazard
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
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 a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.