

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 againstUse of the Sub-
stance/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.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

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-ylenediamine

Amines, polyethylenepoly-, triethylenetetramine fraction

2-piperazin-1-ylethylamine

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

3,6-diazaoctanethylenediamin

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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

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Polyamide polymer	68082-29-1	Xi; R41 Xi; R38 Xi; R43 N; R51/53	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 25 - < 30
Trimethylolpropane poly(oxypropylene)tria mine	39423-51-3	Xn; R21/22 Xi; R41 N; R51/53	Acute Tox. 4; H302 Acute Tox. 4; H312 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 20 - < 25
Poly[oxy(methyl-1,2- ethanediyl)], .alpha.-(2- aminomethylethyl)- .omega.-(2- aminomethylethoxy)-	9046-10-0	C; R34 Xi; R41 R52/53	Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 10 - < 12,5
cyclohex-1,2- ylenediamine	694-83-7 211-776-7 01- 2119976312-37	C; R35 Xn; R20/21/22 Xi; R37 Xi; R41	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335	>= 10 - < 12,5
Amines, polyethylene- poly-, triethylenetetra- mine fraction	90640-67-8 292-588-2 01- 2119487919-13	Xn; R21 C; R34 Xi; R43 R52/53	Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 7 - < 10
2-piperazin-1- ylethylamine	140-31-8 205-411-0 01- 2119471486-30	C; R34 Xn; R21/22 R43 R52-R53	Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412 Acute Tox. 3; H311 1; H318	>= 3 - < 5
Phenol, 4,4'-(1- methylethylidene)bis-, polymer with N,N'-bis(2-	38294-69-8	C; R34 Xn; R21/22 R43	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B;	>= 3 - < 5

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aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane		R52/53	H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412	
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2 202-013-9 01- 2119560597-27	Xn; R22 Xi; R36/38	Acute Tox. 4; H302 Eye Irrit. 2; H319 Skin Irrit. 2; H315	$\geq 3 - < 5$
3,6-diazaoctanethylethylenediamin	112-24-3 203-950-6 01- 2119487919-13	C; R34 Xn; R21/22 R43 R52/53	Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Chronic 3; H412 Acute Tox. 4; H302 Eye Dam. 1; H318	$\geq 3 - < 5$
benzyl alcohol	100-51-6 202-859-9 01- 2119492630-38	Xn; R20/22	Acute Tox. 4; H332 Acute Tox. 4; H302	$\geq 1 - < 3$
Low boiling point naphtha - unspecified	64742-95-6 265-199-0 01- 2119455851-35	Xn; R65 N; R51/53 R10 R67 R66 Xi; R37	STOT SE 3; H336, H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411 Flam. Liq. 3; H226	$\geq 0,25 - < 0,5$

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.

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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 fire-fighting : 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.

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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-

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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/m ³ End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 3,48 mg/m ³ 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/cm ² 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

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		Value: 0,311 mg/cm ²
		End Use: Consumers
		Exposure routes: Ingestion
		Potential health effects: Long-term systemic effects
		Value: 0,04 mg/kg
cyclohex-1,2-ylenediamine	:	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/m ³
		End Use: Workers
		Exposure routes: Inhalation
		Potential health effects: Long-term exposure
		Value: 0,25 mg/m ³
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/m ³
		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/m ³
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/cm ²
		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/m ³
		End Use: Workers
		Exposure routes: Skin contact
		Potential health effects: Long-term local effects
		Value: 0,006 mg/cm ²
		End Use: Consumers
		Exposure routes: Skin contact
		Potential health effects: Short-term exposure, Systemic effects

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Value: 10 mg/kg End
 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: 0,02 mg/cm²
 End Use: Consumers
 Exposure routes: Skin contact
 Potential health effects: Long-term systemic effects
 Value: 1,7 mg/kg
 End Use: Consumers
 Exposure routes: Inhalation
 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: Inhalation
 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

3,6-diazaoctanethylenediamin :

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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: 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
 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
 benzyl alcohol : End Use: Workers
 Exposure routes: Inhalation
 Potential health effects: Short-term exposure, Systemic effects
 Value: 450 mg/m³
 End Use: Workers
 Exposure routes: Inhalation
 Potential health effects: Long-term exposure, Systemic effects
 Value: 90 mg/m³
 End Use: Workers
 Exposure routes: Skin contact
 Potential health effects: Short-term exposure, Systemic effects
 Value: 47 mg/kg
 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

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Low boiling point naphtha - unspecified	: Value: 8,11 mg/m ³ 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/m ³ 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/m ³ End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term exposure, Systemic effects Value: 11 mg/kg
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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
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(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

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		Value: 0,0176 mg/kg
		Intermittent releases
		Value: 0,15 mg/l
		Sewage treatment plant
		Value: 7,5 mg/l
cyclohex-1,2-ylenediamine	:	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 sediment
		Value: 21,5 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

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 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 | : | amber |
| Odour | : | ammoniacal |
| Odour Threshold | : | not determined |
| pH | : | not determined |
| Melting point/freezing point | : | Not applicable |
| Boiling point/boiling range | : | > 200 °C |

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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/cm ³ (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.

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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 (NO_x)
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-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Acute oral toxicity : LD50 (Rat, male and female): 2.885,3 mg/kg
Method: OECD Test Guideline 401

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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-ylethylamine:

Acute oral toxicity : LD50 (Rat, male): 2.097 mg/kg

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

3,6-diazaoctanethylenediamin:

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

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Result: Mild skin irritation

GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.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

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-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

2-piperazin-1-ylethylamine:

Species: Rabbit

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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, polyethylenepoly-, 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.

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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: yesToxicity 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

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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
 Method: Directive 67/548/EEC, Annex V, C.2.
 GLP: yes

Toxicity to algae : ErC50 (Selenastrum capricomutum (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

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Method: OECD Test Guideline 202

GLP: yes

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

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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- : log Pow: -1,13 (20 °C)
octanol/water pH: 12,7
GLP: yes

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

Partition coefficient: n- : log Pow: 1,34 (25 °C)
octanol/water Method: OECD Test Guideline 117
GLP: yes

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2-piperazin-1-ylethylamine:Partition coefficient: n-
octanol/water : log Pow: -1,48 (20 °C)**12.4 Mobility in soil****Components:****2-piperazin-1-ylethylamine:**Distribution among environ-
mental compartments : Medium:Soil
Koc: 37000**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 informa-
tion : 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 nameADR/RID : AMINES, LIQUID, CORROSIVE, N.O.S.
(Polyamide polymer)

IMDG : AMINES, LIQUID, CORROSIVE, N.O.S.

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(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 - unspecified
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).

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REACH - List of substances subject to authorisation : Not applicable
(Annex XIV)

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

		Quantity 1	Quantity 2
9b	Dangerous for the environment	200 t	500 t
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.

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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.
H336	: 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

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