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

## 1.1. Product identifier

Hardener FH for cds-Cable-Joint-Filler

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

## Use of the substance/preparation

Coating material

## 1.3. Details of the supplier of the safety data sheet

### Address/Manufacturer

cds Polymere GmbH & Co. KG
Gau-Bickelheimer Str. 72
55576 Sprendlingen/Rhh.
Telephone no. +49(6701) 9350-0
Fax no. +49(6701) 9350-50

## 1.4. Emergency telephone number

cds-Labor / Tel. +49 (67 01) 93 50-28 ( This number is reachable monday to friday from 8 am to 5 pm )

# SECTION 2: Hazards identification ***

## 2.1. Classification of the substance or mixture

### Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |
| Skin Corr. 1B | H314 |
| Eye Dam. 1 | H318 |
| Skin Sens. 1 | H317 |
| Repr. 2 | H361fd |
| STOT SE 3 | H335 |
| STOT RE 1 | H372 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

## 2.2. Label elements

### Labelling according to 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. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H335 | May cause respiratory irritation. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H304 | May be fatal if swallowed and enters airways. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| 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. |

**Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)**

contains *** 2-Piperazin-1-ylethylamin; Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols; Amines, coco alkyl; (Z)-octadec-9-enylamine; Benzylalcohol; 2,2,4-Trimethylhexan-1,6-Diamin; Urethane Prepolymer; Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol

### 2.3. Other hazards

No special hazards have to be mentioned.
***

The product contains no PBT substances. The product contains substances meeting the vPvB criteria. See SECTION 3 in this safety data sheet. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

## SECTION 3: Composition/information on ingredients ***

**Hazardous ingredients ***

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | | | | |
|---|---|---|---|---|---|
| EINECS no. | 701-443-9 | | | | |
| Registration no. | 01-2119980970-27-XXXX | | | | |
| Concentration | >= | 25 | < | 50 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Skin Irrit. 2 | H315 |
| Skin Sens. 1A | H317 |
| Aquatic Chronic 2 | H411 |

**(Z)-octadec-9-enylamine**

| | | | | | |
|---|---|---|---|---|---|
| CAS No. | 112-90-3 | | | | |
| EINECS no. | 204-015-5 | | | | |
| Registration no. | 01-2119473797-19-XXXX | | | | |
| Concentration | >= | 25 | < | 50 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |
| Asp. Tox. 1 | H304 |
| Skin Corr. 1B | H314 |
| STOT SE 3 | H335 |
| STOT RE 2 | H373 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Concentration limits (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Aquatic Acute 1 | M = 10 |
| Aquatic Chronic 1 | M = 10 |

| | | | |
|---|---|---|---|
| ATE | oral | 1.200 | mg/kg |

**2-Piperazin-1-ylethylamin**

| | | | | | |
|---|---|---|---|---|---|
| CAS No. | 140-31-8 | | | | |
| EINECS no. | 205-411-0 | | | | |
| Registration no. | 01-2119471486-30-XXXX | | | | |
| Concentration | >= | 10 | < | 25 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 3 | H311 |
| Repr. 2 | H361 |
| STOT RE 1 | H372 |
| Skin Corr. 1B | H314 |
| Eye Dam. 1 | H318 |
| Acute Tox. 4 | H302 |
| Skin Sens. 1 | H317 |
| Aquatic Chronic 3 | H412 |

| | | | |
|---|---|---|---|
| ATE | dermal | 866 | mg/kg |

**Urethane Prepolymer**

| | | | | | |
|---|---|---|---|---|---|
| Concentration | >= | 10 | < | 25 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |

| | | | |
|---|---|---|---|
| cATpE | oral | 500 | mg/kg |

**Benzylalcohol**

| | | | | | |
|---|---|---|---|---|---|
| CAS No. | 100-51-6 | | | | |
| EINECS no. | 202-859-9 | | | | |
| Registration no. | 01-2119492630-38-XXXX | | | | |
| Concentration | >= | 1 | < | 10 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |
| Acute Tox. 4 | H332 |

| | | | |
|---|---|---|---|
| ATE | oral | 1.620 | mg/kg |
| cATpE | inhalative, Dust/Mist | 1,5 | mg/l |
| cATpE | inhalative, Vapors | 11 | mg/l |

**Amines, coco alkyl**

| | | | | | |
|---|---|---|---|---|---|
| CAS No. | 61788-46-3 | | | | |
| EINECS no. | 262-977-1 | | | | |
| Registration no. | 01-2119473798-17-XXXX | | | | |
| Concentration | >= | 3 | < | 5 | % |

Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |
| Asp. Tox. 1 | H304 |
| Skin Corr. 1B | H314 |
| STOT SE 3 | H335 |
| STOT RE 2 | H373 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Concentration limits (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Aquatic Acute 1 | M = 10 |
| Aquatic Chronic 1 | M = 10 |

ATE oral 1.240 mg/kg

**2,2,4-Trimethylhexan-1,6-Diamin**
CAS No. 25513-64-8
EINECS no. 247-063-2
Registration no. 01-2119560598-25-XXXX
Concentration >= 1 < 3 %
Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Skin Corr. 1A | H314 |
| Acute Tox. 4 | H302 |
| Skin Sens. 1A | H317 |
| Eye Dam. 1 | H318 |

ATE oral 910 mg/kg

**2,4,6-Tri(dimethylaminomethyl)phenol**
CAS No. 90-72-2
EINECS no. 202-013-9
Registration no. 01-2119560597-27-XXXX
Concentration >= 1 < 3 %
Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Acute Tox. 4 | H302 |
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2 | H319 |

**4-methylpentan-2-one**
CAS No. 108-10-1
EINECS no. 203-550-1
Registration no. 01-2119473980-30-XXXX
Concentration >= 0,1 < 1 %
Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Flam. Liq. 2 | H225 |
| Eye Irrit. 2 | H319 |
| Acute Tox. 4 | H332 |
| STOT SE 3 | H336 |
| Carc. 2 | H351 |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**
EINECS no. 700-960-7
Registration no. 01-2119555274-38-XXXX
Concentration >= 0,1 < 1 %
Classification (Regulation (EC) No. 1272/2008)

| | |
|---|---|
| Skin Irrit. 2 | H315 |
| Skin Sens. 1 | H317 |
| Aquatic Chronic 3 | H412 |

Supplemental information
The substance is contained in the Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

**Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH). *****
Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol

# SECTION 4: First aid measures

## 4.1. Description of first aid measures

### General information

Remove contaminated, soaked clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid. Clean body thoroughly (bath, shower). In any case show the physician the Safety Data Sheet.

**After inhalation**

Ensure supply of fresh air. Remove affected person from danger area. Seek medical advice immediately.

**After skin contact**

Wash off immediately with soap and water. Seek medical advice immediately.

**After eye contact**

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

**After ingestion**

Call in a physician immediately and show him the Safety Data Sheet. Rinse mouth thoroughly with water. Let plenty of water be drunk in small gulps. Do not induce vomiting.

**Adhere to personal protective measures when giving first aid**

First aider: Pay attention to self-protection!

### 4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Hints for the physician / hazards**

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media**

Dry powder

**Non suitable extinguishing media**

Full water jet

### 5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible.

### 5.3. Advice for firefighters

**Special protective equipment for fire-fighting**

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.

**Other information**

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Observe manufacturer's / distributor`s instructions.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. Refer to protective measures listed in Sections 7 and 8.

### 6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water. In case of gas escape or of entry into waterways, soil or drains, inform the

responsible authorities.

### 6.3. Methods and material for containment and cleaning up

Pick up with absorbent material. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Containers in which spilt substance has been collected must be adequately labelled. Dispose of absorbed material in accordance with the regulations.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid formation of aerosols. Perform filling operations only at stations with exhaust ventilation facilities. Provide suitable exhaust ventilation at the processing machines. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Keep container tightly closed.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Provide solvent-resistant and impermeable floor.

#### Hints on storage assembly

Do not store together with foodstuffs.

#### Further information on storage conditions

Do not keep at temperatures above 20 °C.

## SECTION 8: Exposure controls/personal protection ***

### 8.1. Control parameters

#### Derived No/Minimal Effect Levels (DNEL/DMEL) ***

**Benzylalcohol**

| | | |
|---|---|---|
| Reference substance | Benzylalcohol | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 8 | mg/kg |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 22 | mg/m³ |
| | | |
| | Benzylalcohol | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Acute | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 110 | mg/m³ |

| | | |
|---|---|---|
| | Benzylalcohol | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Acute | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 40 | mg/kg |

**2-Piperazin-1-ylethylamin**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 10,6 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Acute | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 10,6 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Local effects | |
| Concentration | 0,015 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Short term | |
| Route of exposure | inhalative | |
| Mode of action | Local effects | |
| Concentration | 0,08 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 3,33 | mg/kg/d |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Short term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 20 | mg/kg/d |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | |
|---|---|
| Type of value | Derived No Effect Level (DNEL) |
| Reference group | Worker |
| Duration of exposure | Long term |
| Route of exposure | dermal |

| | | |
|---|---|---|
| Mode of action | Systemic effects | |
| Concentration | 2,87 | mg/kg |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 1,21 | mg/m³ |

**Amines, coco alkyl**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 0,38 | mg/m³ |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Route of exposure | dermal | |
| Concentration | 3,5 | mg/kg |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Route of exposure | inhalative | |
| Concentration | 1,4 | mg/kg |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 0,53 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 0,15 | mg/kg/d |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Short term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 2,1 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Short term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 0,6 | mg/kg/d |

**(Z)-octadec-9-enylamine**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 0,38 | mg/m³ |

**4-methylpentan-2-one**

| | | |
|---|---|---|
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 83 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Acute | |
| Route of exposure | inhalative | |
| Mode of action | Systemic effects | |
| Concentration | 208 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | inhalative | |
| Mode of action | Local effects | |
| Concentration | 83 | mg/l |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Acute | |
| Route of exposure | inhalative | |
| Mode of action | Local effects | |
| Concentration | 208 | mg/m³ |
| | | |
| Type of value | Derived No Effect Level (DNEL) | |
| Reference group | Worker | |
| Duration of exposure | Long term | |
| Route of exposure | dermal | |
| Mode of action | Systemic effects | |
| Concentration | 11,8 | mg/kg/d |

## Predicted No Effect Concentration (PNEC) ***

**Benzylalcohol**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Water | |
| Concentration | 1 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Water (intermittent release) | |
| Concentration | 2,31 | mg/l |
| | | |
| Type of value | PNEC | |

| | | |
|---|---|---|
| Type | Saltwater | |
| Concentration | 0,1 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 39 | mg/l |
| | | |
| | Benzylalcohol | |
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 5,27 | mg/kg |
| | | |
| | Benzylalcohol | |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 0,527 | mg/kg |
| | | |
| | Benzylalcohol | |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 0,456 | mg/kg |

**2-Piperazin-1-ylethylamin**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,058 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Marine | |
| Concentration | 0,0058 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Water (intermittent release) | |
| Concentration | 0,58 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 250 | mg/l |
| | | |
| Type of value | PNEC | |
| Type | Sediment | |
| Concentration | 215 | mg/kg |
| | | |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 21,5 | mg/kg |
| | | |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 1 | mg/kg |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,102 | mg/l |
| | | |
| Type of value | PNEC | |

| | | |
|---|---|---|
| Type | Marine | |
| Concentration | 0,01 | mg/l |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,0115 | mg/l |
| Type of value | PNEC | |
| Type | Marine | |
| Concentration | 0,00115 | mg/l |

**Amines, coco alkyl**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,00026 | mg/l |
| Type of value | PNEC | |
| Type | Marine | |
| Concentration | 0,000026 | mg/l |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 0,55 | mg/l |
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 0,1794 | mg/kg |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 0,01794 | mg/kg |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 10 | mg/kg |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,014 | mg/l |
| Type of value | PNEC | |
| Type | Marine | |
| Concentration | 0,0014 | mg/l |
| Type of value | PNEC | |
| Type | Water (intermittent release) | |
| Concentration | 0,14 | mg/l |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 2,4 | mg/l |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 212 | mg/kg |

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 1064 | mg/kg |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 106 | mg/kg |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Water | |
| Concentration | 0,046 | mg/l |
| Type of value | PNEC | |
| Type | Marine | |
| Concentration | 0,0046 | mg/l |
| Type of value | PNEC | |
| Type | Water (intermittent release) | |
| Concentration | 0,46 | mg/l |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 0,2 | mg/l |
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 0,262 | mg/kg |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 0,026 | mg/kg |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 0,025 | mg/kg |

**(Z)-octadec-9-enylamine**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,00026 | mg/l |
| Type of value | PNEC | |
| Type | Saltwater | |
| Concentration | 0,000026 | mg/l |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 0,55 | mg/l |
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 0,1794 | mg/kg |
| Type of value | PNEC | |
| Type | Marine sediment | |

| | | |
|---|---|---|
| Concentration | 0,01794 | mg/kg |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 10 | mg/kg |

**4-methylpentan-2-one**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Freshwater | |
| Concentration | 0,6 | mg/l |
| Type of value | PNEC | |
| Type | Saltwater | |
| Concentration | 0,06 | mg/l |
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 27,5 | mg/l |
| Type of value | PNEC | |
| Type | Freshwater sediment | |
| Concentration | 8,27 | mg/kg |
| Type of value | PNEC | |
| Type | Marine sediment | |
| Concentration | 0,83 | mg/kg |
| Type of value | PNEC | |
| Type | Soil | |
| Concentration | 1,3 | mg/kg |

### 8.2. Exposure controls

#### General protective and hygiene measures

Hold emergency shower available. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Do not eat, drink or smoke during work time. Storage of foodstuffs in work rooms is forbidden. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

#### Respiratory protection

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn.

#### Hand protection

Chemical resistant gloves
Appropriate Material neoprene

#### Eye protection

Safety glasses with side protection shield; Face shield

#### Body protection

Clothing as usual in the chemical industry. Protective shoes

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Physical state** liquid

**Melting point**

Remarks not determined

**Freezing point**
Remarks not determined

**Boiling point or initial boiling point and boiling range**
Remarks not determined

**Flammability**
evaluation not determined

**Upper and lower explosive limits**
Remarks not determined

**Flash point**
Value > 100 °C

**Ignition temperature**
Remarks not determined

**Decomposition temperature**
Remarks not determined

**pH value**
Remarks not determined

**Viscosity**
Remarks not determined

**Solubility(ies)**
Remarks not determined

**Partition coefficient n-octanol/water (log value)**
Remarks not determined

**Vapour pressure**
Remarks not determined

**Density and/or relative density**
Value 0,98 g/cm³
Temperature 23 °C

**Relative vapour density**
Remarks not determined

### 9.2. Other information

**Odour threshold**
Remarks not determined

**Evaporation rate (ether = 1) :**
Remarks not determined

**Solubility in water**
Remarks not determined

**Explosive properties**
evaluation not determined

**Oxidising properties**
Remarks not determined

**Other information**
None known

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

### 10.2. Chemical stability
No hazardous reactions known.

### 10.3. Possibility of hazardous reactions
No hazardous reactions known.

### 10.4. Conditions to avoid
No hazardous reactions known.

### 10.5. Incompatible materials
None known

### 10.6. Hazardous decomposition products
Toxic gases/vapours, Irritant gases/vapours

## SECTION 11: Toxicological information ***

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute oral toxicity**

| | | |
|---|---|---|
| ATE | 1.981,2262 | mg/kg |
| Method | calculated value (Regulation (EC) No. 1272/2008) | |
| Remarks | The classification criteria are met. | |

**Acute oral toxicity (Components) *****

**Benzylalcohol**

| | | |
|---|---|---|
| Species | mouse | |
| LD50 | 1040 | mg/kg |

**Benzylalcohol**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 1620 | mg/kg |

**2-Piperazin-1-ylethylamin**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 2140 | mg/kg |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 910 | mg/kg |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | > 2000 | mg/kg |
| Method | OECD 423 | |

**Amines, coco alkyl**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 1240 to 1388 | mg/kg |
| Method | OECD 401 | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | > 2000 | mg/kg |
| Method | OECD 423 | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 2169 | mg/kg |

**(Z)-octadec-9-enylamine**

| | | |
|---|---|---|
| Species | rat | |

| | | | | |
|---|---|---|---|---|
| LD50 | 1200 | to | 2000 | mg/kg |
| Method | OECD 401 | | | |

**4-methylpentan-2-one**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | 2080 | mg/kg |
| Method | OECD 401 | |

### Acute dermal toxicity

| | | |
|---|---|---|
| ATE | 7.629,9559 | mg/kg |
| Method | calculated value (Regulation (EC) No. 1272/2008) | |
| Remarks | Based on available data, the classification criteria are not met. | |

### Acute dermal toxicity (Components)

**Benzylalcohol**

| | | |
|---|---|---|
| Species | rabbit | |
| LD50 | > 2000 | mg/kg |

**2-Piperazin-1-ylethylamin**

| | | |
|---|---|---|
| Species | rabbit | |
| LD50 | 866 | mg/kg |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | > 2000 | mg/kg |
| Method | OECD 402 | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | > 2000 | mg/kg |
| Method | OECD 402 | |

**4-methylpentan-2-one**

| | | |
|---|---|---|
| Species | rat | |
| LD50 | > 2000 | mg/kg |

### Acute inhalational toxicity

| | | |
|---|---|---|
| ATE | > 100 | mg/l |
| Administration/Form | Vapors | |
| Method | calculated value (Regulation (EC) No. 1272/2008) | |
| ATE | > 20 | mg/l |
| Administration/Form | Dust/Mist | |
| Method | calculated value (Regulation (EC) No. 1272/2008) | |
| Remarks | Based on available data, the classification criteria are not met. | |

### Acute inhalative toxicity (Components)

**Benzylalcohol**

| | | |
|---|---|---|
| Species | rat | |
| LC50 | > 4,178 | mg/l |
| Duration of exposure | 4 h | |
| Administration/Form | Dust/Mist | |
| Method | OECD 403 | |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | |
|---|---|---|
| Species | rat | |
| LC0 | > 4,9 | mg/l |
| Duration of exposure | 4 h | |
| Administration/Form | Dust/Mist | |
| Method | OECD 403 | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | |
|---|---|---|
| Species | rat | |
| LC0 | 4,9 | mg/l |

| | | |
|---|---|---|
| Duration of exposure | 4 | h |
| Administration/Form | Dust/Mist | |
| Method | OECD 403 | |

**4-methylpentan-2-one**

| | | |
|---|---|---|
| ATE | 11 | mg/l |
| Administration/Form | Vapors | |

### Skin corrosion/irritation

| | |
|---|---|
| evaluation | corrosive |
| Remarks | The classification criteria are met. |

### Skin corrosion/irritation (Components)

**Amines, coco alkyl**

| | |
|---|---|
| Species | rabbit |
| evaluation | corrosive |

### Serious eye damage/irritation

| | |
|---|---|
| evaluation | corrosive |
| Remarks | The classification criteria are met. |

### Sensitization

| | |
|---|---|
| evaluation | May cause sensitization by skin contact. |
| Remarks | The classification criteria are met. |

### Subacute, subchronic, chronic toxicity

| | |
|---|---|
| Remarks | not determined |

### Mutagenicity

| | |
|---|---|
| Remarks | Based on available data, the classification criteria are not met. |

### Reproductive toxicity

| | |
|---|---|
| evaluation | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| Remarks | The classification criteria are met. |

### Carcinogenicity

| | |
|---|---|
| Remarks | Based on available data, the classification criteria are not met. |

### Specific Target Organ Toxicity (STOT)

**Single exposure**

| | |
|---|---|
| Remarks | The classification criteria are met. |
| evaluation | May cause respiratory irritation. |

**Repeated exposure**

| | |
|---|---|
| Remarks | The classification criteria are met. |
| evaluation | Causes damage to organs through prolonged or repeated exposure |

### Specific Target Organ Toxicity (STOT) (Components)

**Amines, coco alkyl**

| | |
|---|---|
| evaluation | May cause respiratory irritation. |

### Aspiration hazard

The classification criteria are met.
Harmful: may cause lung damage if swallowed.

## 11.2 Information on other hazards

### Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

### Experience in practice

Inhalation may lead to irritation of the respiratory tract.

### Other information

No toxicological data are available.

## SECTION 12: Ecological information ***

### 12.1. Toxicity

#### General information

not determined

#### Fish toxicity (Components)

**Benzylalcohol**

| | | | | |
|---|---|---|---|---|
| Species | Fathead minnow (Pimephales promelas) | | | |
| LC50 | 460 | | | mg/l |
| Duration of exposure | 96 | h | | |

**Benzylalcohol**

| | | | | |
|---|---|---|---|---|
| Species | golden orfe (Leuciscus idus) | | | |
| LC50 | > 645 | | | mg/l |
| Duration of exposure | 96 | h | | |

**2-Piperazin-1-ylethylamin**

| | | | | |
|---|---|---|---|---|
| Species | Fathead minnow (Pimephales promelas) | | | |
| LC50 | 2190 | | | mg/l |
| Duration of exposure | 96 | h | | |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | | | |
|---|---|---|---|---|
| Species | golden orfe (Leuciscus idus) | | | |
| LC50 | 174 | | | mg/l |
| Duration of exposure | 48 | h | | |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | | | |
|---|---|---|---|---|
| Species | zebra fish (Brachydanio rerio) | | | |
| LL50 | 14,8 | | | mg/l |
| Duration of exposure | 96 | h | | |
| Method | OECD 203 | | | |

**Amines, coco alkyl**

| | | | | |
|---|---|---|---|---|
| Species | Fathead minnow (Pimephales promelas) | | | |
| LC50 | > 0,01 | to | 0,1 | mg/l |
| Method | OECD 203 | | | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | | | |
|---|---|---|---|---|
| Species | carp (Cyprinus carpio) | | | |
| LC50 | 175 | | | mg/l |
| Duration of exposure | 96 | h | | |

**(Z)-octadec-9-enylamine**

| | | | | |
|---|---|---|---|---|
| Species | Fathead minnow (Pimephales promelas) | | | |
| LC50 | > 0,01 | to | 0,1 | mg/l |
| Duration of exposure | 96 | h | | |
| Method | OECD 203 | | | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | | | |
|---|---|---|---|---|
| Species | zebra fish (Brachydanio rerio) | | | |
| LL50 | 25,8 | | | mg/l |
| Duration of exposure | 96 | h | | |
| Method | OECD 203 | | | |

**4-methylpentan-2-one**

| | | | | |
|---|---|---|---|---|
| Species | zebra fish (Brachydanio rerio) | | | |
| LC50 | > 179 | | | mg/l |
| Duration of exposure | 96 | h | | |
| Method | OECD 203 | | | |

## Daphnia toxicity (Components)

**Benzylalcohol**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | 230 | | | mg/l |
| Duration of exposure | 48 | h | | |

**2-Piperazin-1-ylethylamin**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | 58 | | | mg/l |
| Duration of exposure | 48 | h | | |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | 31,5 | | | mg/l |
| Duration of exposure | 24 | h | | |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | 4,6 | | | mg/l |
| Duration of exposure | 48 | h | | |
| Method | OECD 202 | | | |

**Amines, coco alkyl**

| | | | | | |
|---|---|---|---|---|---|
| Species | Daphnia magna | | | | |
| EC50 | > | 0,01 | to | 0,1 | mg/l |
| Duration of exposure | | 48 | h | | |
| Method | OECD 202 | | | | |

**Amines, coco alkyl**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| NOEC | > | 0,01 | to | 0,1 |
| Duration of exposure | | 21 | Days | |
| Method | OECD 211 | | | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Daphnia magna | | | | |
| EL50 | | 14 | to | 51 | mg/l |
| Duration of exposure | | 48 | h | | |
| Method | OECD 202 | | | | |

**(Z)-octadec-9-enylamine**

| | | | | | |
|---|---|---|---|---|---|
| Species | Daphnia magna | | | | |
| EC50 | > | 0,01 | to | 0,1 | mg/l |
| Duration of exposure | | 48 | h | | |
| Method | OECD 202 | | | | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | 718 | | | mg/l |
| Duration of exposure | 96 | h | | |

**4-methylpentan-2-one**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| EC50 | > | 200 | | mg/l |
| Duration of exposure | 48 | h | | |
| Method | OECD 202 | | | |

**4-methylpentan-2-one**

| | | | | |
|---|---|---|---|---|
| Species | Daphnia magna | | | |
| NOEC | 30 | | | mg/l |
| Duration of exposure | 21 | d | | |
| Method | OECD 211 | | | |

## Algae toxicity (Components)

**Benzylalcohol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Pseudokirchneriella subcapitata | | | | |
| IC50 | | 770 | | | mg/l |
| Duration of exposure | | 72 | h | | |

**2-Piperazin-1-ylethylamin**

| | | | | | |
|---|---|---|---|---|---|
| Species | Pseudokirchneriella subcapitata | | | | |
| EC50 | > | 1000 | | | mg/l |
| Duration of exposure | | 72 | h | | |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | | | | |
|---|---|---|---|---|---|
| Species | Scenedesmus subspicatus | | | | |
| ErC50 | | 43,5 | | | mg/l |
| Duration of exposure | | 72 | h | | |

**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

| | | | | | |
|---|---|---|---|---|---|
| Species | Scenedesmus subspicatus | | | | |
| EL50 | | 3,14 | | | mg/l |
| Duration of exposure | | 72 | h | | |
| Method | OECD 201 | | | | |

**Amines, coco alkyl**

| | | | | | |
|---|---|---|---|---|---|
| Species | Scenedesmus subspicatus | | | | |
| EC50 | > | 0,01 | to | 0,1 | mg/l |
| Duration of exposure | | 72 | h | | |

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Scenedesmus subspicatus | | | | |
| EL50 | | 15 | | | mg/l |
| Duration of exposure | | 72 | h | | |
| Method | OECD 201 | | | | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Desmodesmus subspicatus | | | | |
| EC50 | | 84 | | | mg/l |
| Duration of exposure | | 72 | h | | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Desmodesmus subspicatus | | | | |
| NOEC | | 6,25 | | | mg/l |
| Duration of exposure | | 72 | h | | |
| Method | OECD 201 | | | | |

**(Z)-octadec-9-enylamine**

| | | | | | |
|---|---|---|---|---|---|
| Species | Desmodesmus subspicatus | | | | |
| EC50 | > | 0,01 | to | 0,1 | mg/l |
| Duration of exposure | | 72 | h | | |
| Method | OECD 201 | | | | |

**4-methylpentan-2-one**

| | | | | | |
|---|---|---|---|---|---|
| Species | Algae | | | | |
| EC50 | > | 146 | | | mg/l |
| Duration of exposure | | 7 | d | | |

**4-methylpentan-2-one**

| | | | | | |
|---|---|---|---|---|---|
| Species | Algae | | | | |
| NOEC | | 146 | | | mg/l |
| Duration of exposure | | 7 | Days | | |

## Bacteria toxicity (Components)

**Benzylalcohol**

| | | | | | |
|---|---|---|---|---|---|
| Species | Pseudomonas putida | | | | |
| EC10 | > | 658 | | | mg/l |
| Duration of exposure | | 16 | h | | |

**Benzylalcohol**

| | | | |
|---|---|---|---|
| Species | Pseudomonas putida | | |
| EC50 | 390 | | mg/l |
| Duration of exposure | 24 | h | |

**2,2,4-Trimethylhexan-1,6-Diamin**

| | | | |
|---|---|---|---|
| Species | Pseudomonas putida | | |
| EC50 | 89 | | mg/l |
| Duration of exposure | 17 | h | |

**2,4,6-Tri(dimethylaminomethyl)phenol**

| | | | |
|---|---|---|---|
| Species | activated sludge | | |
| NOEC | 2 | | mg/l |
| Duration of exposure | 28 | h | |

**4-methylpentan-2-one**

| | | | |
|---|---|---|---|
| Species | Pseudomonas putida | | |
| EC50 | 275 | | mg/l |
| Duration of exposure | 16 | h | |
| Method | DIN 38412 / Part 8 | | |

## 12.2. Persistence and degradability

### General information

not determined

## 12.3. Bioaccumulative potential

### General information

not determined

### Partition coefficient n-octanol/water (log value)

Remarks: not determined

### Octanol/water partition coefficient (log Pow) (Components)

**(Z)-octadec-9-enylamine**

log Pow: 3,7

### Bioconcentration factor (BCF) (Components)

**(Z)-octadec-9-enylamine**

BCF: > 500

## 12.4. Mobility in soil

### General information

not determined

## 12.5. Results of PBT and vPvB assessment

### General information

not determined

### Results of PBT and vPvB assessment ***

The product contains no PBT substances
The product contains vPvB-substances.

### Results of PBT and vPvB assessment (Ingredients)

**Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol**

The substance meets vPvB-criteria.

## 12.6 Endocrine disrupting properties

### Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

### 12.7. Other adverse effects

#### General information

not determined

#### General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

#### Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

## SECTION 14: Transport information

| | Land transport ADR/RID | Marine transport IMDG/GGVSee | Air transport ICAO/IATA |
|---|---|---|---|
| **14.1. UN number or ID number** | 2735 | 2735 | 2735 |
| **14.2. UN proper shipping name** | POLYAMINES, LIQUID, CORROSIVE, N.O.S. ((Z)-octadec-9-enylamine, 2-Piperazin-1-ylethylamin) | POLYAMINES, LIQUID, CORROSIVE, N.O.S. ((Z)-octadec-9-enylamine, 2-Piperazin-1-ylethylamin) | POLYAMINES, LIQUID, CORROSIVE, N.O.S. ((Z)-octadec-9-enylamine, 2-Piperazin-1-ylethylamin) |
| **14.3. Transport hazard class(es)** | 8 | 8 | 8 |
| Label |  |  |  |
| **14.4. Packing group** | II | II | II |
| Limited Quantity | 1 l | 1 l | |
| Transport category | 2 | | |
| **14.5. Environmental hazards** |  ENVIRONMENTALLY HAZARDOUS | Marine Pollutant  ENVIRONMENTALLY HAZARDOUS |  ENVIRONMENTALLY HAZARDOUS |
| Tunnel restriction code | E | | |

# SECTION 15: Regulatory information ***

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

### Major-accident categories acc. 2012/18/EU

| | | | | | | |
|---|---|---|---|---|---|---|
| Category | E1 | Hazardous to the Aquatic Environment | 100000 | kg | 200000 | kg |

### VOC ***

| | | | | |
|---|---|---|---|---|
| VOC (EU) | 0,61 | % | 6 | g/l |

### Restriction according to annex XVII to regulation (EU) No 1907/2006

Conditions of restriction for the entries Annex XVII REACH should be considered.

### Other information ***

The product contains substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

## 15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

# SECTION 16: Other information

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification (Regulation (EC) No. 1272/2008)

| | | |
|---|---|---|
| Acute Tox. 4 | H302 | Calculation method |
| Skin Corr. 1B | H314 | Calculation method |
| Eye Dam. 1 | H318 | Calculation method |
| Skin Sens. 1 | H317 | Calculation method |
| Repr. 2 | H361fd | Calculation method |
| STOT SE 3 | H335 | Calculation method |
| STOT RE 1 | H372 | Calculation method |
| Asp. Tox. 1 | H304 | Calculation method |
| Aquatic Acute 1 | H400 | Calculation method |
| Aquatic Chronic 1 | H410 | Calculation method |

### Hazard statements listed in Chapter 2/3

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic 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. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

| | |
|---|---|
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

## CLP categories listed in Chapter 2/3

| | |
|---|---|
| Acute Tox. 3 | Acute toxicity, Category 3 |
| Acute Tox. 4 | Acute toxicity, Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment, acute, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment, chronic, Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment, chronic, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment, chronic, Category 3 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Dam. 1 | Serious eye damage, Category 1 |
| Eye Irrit. 2 | Eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquid, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Corr. 1A | Skin corrosion, Category 1A |
| Skin Corr. 1B | Skin corrosion, Category 1B |
| Skin Irrit. 2 | Skin irritation, Category 2 |
| Skin Sens. 1 | Skin sensitization, Category 1 |
| Skin Sens. 1A | Skin sensitization, Category 1A |
| STOT RE 1 | Specific target organ toxicity - repeated exposure, Category 1 |
| STOT RE 2 | Specific target organ toxicity - repeated exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity - single exposure, Category 3 |

## Information about Safety Data Sheets Preparers

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## Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.