

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 19.05.2015

Version number 1

Revision: 19.05.2015

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****- 1.1 Product identifier****- Trade name: ergo 7428****- 1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**- Application of the substance / the mixture** Epoxy resin adhesive**- 1.3 Details of the supplier of the safety data sheet****- Manufacturer/Supplier:**

Kisling AG

Motorenstrasse 102

CH-8620 Wetzikon

Telefon: +41-(0) 58-272 0 272

Telefax: +41-(0) 58-272 0 273

**- Further information obtainable from:** Safety Department**- Department issuing MSDS:** ergo@kisling.com**- 1.4 Emergency telephone number:** Swiss Toxicological Information Centre: +41-(0) 44-2 51 51 51**SECTION 2: Hazards identification****- 2.1 Classification of the substance or mixture****- Classification according to Regulation (EC) No 1272/2008**

Skin Irrit. 2        H315 Causes skin irritation.

Eye Irrit. 2        H319 Causes serious eye irritation.

Skin Sens. 1        H317 May cause an allergic skin reaction.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

**- Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xi; Irritant

R36/38: Irritating to eyes and skin.

Xi; Sensitising

R43: May cause sensitisation by skin contact.

N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**- Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

**- Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

**- 2.2 Label elements****- Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**- Hazard pictograms**

GHS07    GHS09

**- Signal word** Warning

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**- Hazard-determining components of labelling:**

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq$  700)  
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol (BPFEDGE)

**- Hazard statements**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

**- Precautionary statements**

P261 Avoid breathing mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**- Additional information:**

EUH205 Contains epoxy constituents. May produce an allergic reaction.

**- 2.3 Other hazards****- Results of PBT and vPvB assessment**

**- PBT:** Not applicable.

**- vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients****- 3.2 Mixtures**

**- Description:** Adhesive

**- Dangerous components:**

CAS: 25068-38-6 NLP: 500-033-5 Index number: 603-074-00-8 Reg.nr.: 01-2119456619-26-xxxx	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq$ 700) Xi R36/38; Xi R43; N R51/53 ----- Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	25-<100%
CAS: 9003-36-5 NLP: 500-006-8 Reg.nr.: 01-2119454392-40-xxxx	Formaldehyde, oligomeric reaction products with 1-chloro- 2,3-epoxypropane and phenol (BPFEDGE) Xi R36/38; Xi R43; N R51/53 ----- Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	3-<10%

**- Additional information:** For the wording of the listed risk phrases refer to section 16.

**SECTION 4: First aid measures****- 4.1 Description of first aid measures**

**- General information:** Remove any clothing soiled by the product.

**- After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**- After skin contact:**

After contact with skin, wash immediately with plenty of soap and water.

If skin irritation continues, consult a doctor.

**- After eye contact:**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
If swallowed, do not induce vomiting: seek medical advice and show this container or label.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.
- **Additional information**  
Cool endangered receptacles with water spray.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 10 for information on "stability and reactivity".  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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**- 8.1 Control parameters****- Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**- Additional information:** The lists valid during the making were used as basis.

**- 8.2 Exposure controls****- Personal protective equipment:****- General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Clean skin thoroughly immediately after handling the product.

**- Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A/P2

**- Protection of hands:**

Protective gloves (EN 374)

Check protective gloves prior to each use for their proper condition.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**- Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**- Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**- Eye protection:** Safety glasses

**- Body protection:** Use protective suit.

## SECTION 9: Physical and chemical properties

**- 9.1 Information on basic physical and chemical properties****- General Information****- Appearance:**

**Form:** Pasty

**Colour:** White

**- Odour:** Characteristic

**- Odour threshold:** Not determined.

**- pH-value:** Not determined.

**- Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

**- Flash point:** > 100 °C

**- Flammability (solid, gaseous):** Not applicable.

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**- Ignition temperature:****Decomposition temperature:** Not determined.**- Self-igniting:** Product is not self-igniting.**- Danger of explosion:** Product does not present an explosion hazard.**- Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**- Vapour pressure:** Not determined.**- Density at 20 °C:** 1,44 g/cm<sup>3</sup>**- Relative density** Not determined.**- Vapour density** Not determined.**- Evaporation rate** Not determined.**- Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

**- Partition coefficient (n-octanol/water):** Not determined.**- Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**- 9.2 Other information** No further relevant information available.**SECTION 10: Stability and reactivity****- 10.1 Reactivity****- 10.2 Chemical stability****- Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**- 10.3 Possibility of hazardous reactions**

Reacts with strong alkali.

Reacts with strong acids.

Reacts with strong oxidising agents.

**- 10.4 Conditions to avoid** No further relevant information available.**- 10.5 Incompatible materials:** No further relevant information available.**- 10.6 Hazardous decomposition products:**

No dangerous products of decomposition if used and stored according to specifications.

**SECTION 11: Toxicological information****- 11.1 Information on toxicological effects****- Acute toxicity****- LD/LC50 values relevant for classification:****868-77-9 2-hydroxyethyl methacrylate**

Oral LD50 5050 mg/kg (rat)

Dermal LD50 3000 mg/kg (rab)

**- Primary irritant effect:****- Skin corrosion/irritation** Irritant to skin and mucous membranes.**- Serious eye damage/irritation** Causes serious eye irritation.**- Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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**- Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

No experimentally found toxicological data are available for this preparation.

**SECTION 12: Ecological information****- 12.1 Toxicity****- Aquatic toxicity:****868-77-9 2-hydroxyethyl methacrylate**

LC50/96 h | 213 - 242 mg/l (Pimephales promelas)

**- 12.2 Persistence and degradability** No further relevant information available.**- 12.3 Bioaccumulative potential** No further relevant information available.**- 12.4 Mobility in soil** No further relevant information available.**- Ecotoxicological effects:****- Remark:** Toxic for fish**- Additional ecological information:****- General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Danger to drinking water if even small quantities leak into the ground.

Do not allow product to reach ground water, water course or undiluted sewage system.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

**- 12.5 Results of PBT and vPvB assessment****- PBT:** Not applicable.**- vPvB:** Not applicable.**- 12.6 Other adverse effects** No further relevant information available.**SECTION 13: Disposal considerations****- 13.1 Waste treatment methods****- Recommendation** Disposal must be made according to official regulations.**- Uncleaned packaging:****- Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****- 14.1 UN-Number****- ADR, IMDG, IATA**

UN3082

**- 14.2 UN proper shipping name****- ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

**- IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)), MARINE POLLUTANT

**- IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

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**- 14.3 Transport hazard class(es)****- ADR**

**- Class** 9 (M6) Miscellaneous dangerous substances and articles.  
**- Label** 9

**- IMDG, IATA**

**- Class** 9 Miscellaneous dangerous substances and articles.  
**- Label** 9

**- 14.4 Packing group**

**- ADR, IMDG, IATA** III

**- 14.5 Environmental hazards:**

**- Marine pollutant:** Yes  
 Symbol (fish and tree)  
**- Special marking (ADR):** Symbol (fish and tree)  
**- Special marking (IATA):** Symbol (fish and tree)

**- 14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.  
**- Danger code (Kemler):** 90  
**- EMS Number:** F-A,S-F

**- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**- Transport/Additional information:****- ADR**

**- Limited quantities (LQ)** 5L  
**- Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

**- Transport category** 3  
**- Tunnel restriction code** E

**- IMDG**

**- Limited quantities (LQ)** 5L  
**- Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

**- UN "Model Regulation":**

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq$  700)), 9, III

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### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### - Relevant phrases

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### - Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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

#### - 1.1 Product identifier

- Trade name: **ergo 7429**

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

No further relevant information available.

- Application of the substance / the mixture Epoxy resin adhesive

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

##### - Manufacturer/Supplier:

Kisling AG

Motorenstrasse 102

CH-8620 Wetzikon

Telefon: +41-(0) 58-272 0 272

Telefax: +41-(0) 58-272 0 273

- Further information obtainable from: Safety Department

- Department issuing MSDS: ergo@kisling.com

- 1.4 Emergency telephone number: Swiss Toxicological Information Centre: +41-(0) 44-2 51 51 51

### SECTION 2: Hazards identification

#### - 2.1 Classification of the substance or mixture

##### - Classification according to Regulation (EC) No 1272/2008

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

##### - Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

Xi; Sensitising

R43: May cause sensitisation by skin contact.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

##### - Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

##### - Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

#### - 2.2 Label elements

##### - Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

##### - Hazard pictograms



GHS05 GHS07

- Signal word Danger

##### - Hazard-determining components of labelling:

Amino Polyamide

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N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine  
 trimethylhexane-1,6-diamine  
 m-phenylenebis(methylamine)

**- Hazard statements**

H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H412 Harmful to aquatic life with long lasting effects.

**- Precautionary statements**

P260 Do not breathe mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 IF ON SKIN (or hair): 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/doctor.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**- 2.3 Other hazards****- Results of PBT and vPvB assessment****- PBT:** Not applicable.**- vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****- 3.2 Mixtures****- Description:** Adhesive**- Dangerous components:**

CAS: 107-41-5 EINECS: 203-489-0 Index number: 603-053-00-3	2-methylpentane-2,4-diol Xi R36/38 ----- Skin Irrit. 2, H315; Eye Irrit. 2, H319	10-<25%
CAS: 68082-29-1 NLP: 500-191-5	Amino Polyamide Xi R38-41; N R51/53 ----- Met. Corr.1, H290; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Irrit. 2, H315	5-<10%
CAS: 10563-29-8 EINECS: 234-148-4	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine C R35; Xn R21/22; Xi R43 ----- Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	3-<5%
CAS: 25620-58-0 EINECS: 247-134-8	trimethylhexane-1,6-diamine C R34; Xn R22; Xi R43 R52/53 ----- Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317; Aquatic Chronic 3, H412	3-<5%
CAS: 104-15-4 EINECS: 203-180-0 Index number: 016-030-00-2	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) Xi R36/37/38 ----- Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1-<3%

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CAS: 1477-55-0 EINECS: 216-032-5	m-phenylenebis(methylamine) T R23; C R35; Xn R22; Xi R43 R52/53 ----- Acute Tox. 3, H331; Skin Corr. 1A, H314; Acute Tox. 4, H302; Skin Sens. 1, H317; Aquatic Chronic 3, H412	1-<3%
CAS: 112-24-3 EINECS: 203-950-6 Index number: 612-059-00-5	3,6-diazaoctanethylenediamin C R34; Xn R21; Xi R43 R52/53 ----- Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	0,3-<1%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

#### - 4.1 Description of first aid measures

- **General information:** Immediately remove any clothing soiled by the product.

#### - After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

#### - After skin contact:

After contact with skin, wash immediately with plenty of soap and water.

If skin irritation continues, consult a doctor.

#### - After eye contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### - After swallowing:

Rinse out mouth and then drink plenty of water.

If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

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

No further relevant information available.

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

No further relevant information available.

### SECTION 5: Firefighting measures

#### - 5.1 Extinguishing media

- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

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

Formation of toxic gases is possible during heating or in case of fire.

#### - 5.3 Advice for firefighters

##### - Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

##### - Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

#### - 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

#### - 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the material collected according to regulations.

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Use neutralising agent.

**- 6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 10 for information on "stability and reactivity".

See Section 13 for disposal information.

**SECTION 7: Handling and storage****- 7.1 Precautions for safe handling** No special precautions are necessary if used correctly.**- Information about fire - and explosion protection:** No special measures required.**- 7.2 Conditions for safe storage, including any incompatibilities****- Storage:****- Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.**- Information about storage in one common storage facility:** Store away from foodstuffs.**- Further information about storage conditions:** Keep receptacle tightly sealed.**- 7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****- Additional information about design of technical facilities:** No further data; see item 7.**- 8.1 Control parameters****- Ingredients with limit values that require monitoring at the workplace:****107-41-5 2-methylpentane-2,4-diol**

MAK (Switzerland)	Short-term value: 98 mg/m <sup>3</sup> , 20 ppm
	Long-term value: 49 mg/m <sup>3</sup> , 10 ppm

**1477-55-0 m-phenylenebis(methylamine)**

MAK (Switzerland)	Long-term value: 0,1 mg/m <sup>3</sup>
	H S;

**- DNELs****112-24-3 3,6-diazaoctanethylenediamin**

Oral	Akut, Systemische Effekte	20 mg/kg (all)
	Langzeit, Systemische Effekte	0,41 mg/kg bw/day (all)
Dermal	Akut, Lokale Effekte	1 mg/kg (all)
	Akut, Systemische Effekte	8 mg/kg bw (all)
	Langzeit, Lokale Effekte	0,028 mg/kg bw/day (ber)
	Langzeit, Systemische Effekte	0,57 mg/kg bw/day (ber)
Inhalative	Akut, Systemische Effekte	1600 mg/m <sup>3</sup> (all)
		5380 mg/m <sup>3</sup> (ber)
	Langzeit, Systemische Effekte	0,29 mg/m <sup>3</sup> (all)
		1 mg/m <sup>3</sup> (ber)

**- PNECs****112-24-3 3,6-diazaoctanethylenediamin**

PNEC Boden	19,1 mg/kg Boden (-)
PNEC Kläranlage	4,25 mg/l (-)
PNEC Meerwasser	0,038 mg/l (-)
PNEC Meerwassersediment	19,2 mg/kg Sediment (-)
PNEC Süßwasser	0,19 mg/l (-)

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PNEC Süßwassersediment	95,9 mg/kg Sediment (-)
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- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A/P2

- **Protection of hands:**

Protective gloves (EN 374)

Check protective gloves prior to each use for their proper condition.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Tightly sealed goggles

- **Body protection:** Use protective suit.

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Pasty ADR 2.3.4: solid
<b>Colour:</b>	Grey

- **Odour:** Characteristic

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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- **Self-igniting:** Product is not self-igniting.

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- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

- **Vapour pressure:** Not determined.

- **Density at 20 °C:** 1,13 g/cm<sup>3</sup>

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

**Dynamic:** Not determined.

**Kinematic:** Not determined.

- **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**

- **10.2 Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

- **10.3 Possibility of hazardous reactions** Strong exothermic reaction with acids.

- **10.4 Conditions to avoid** No further relevant information available.

- **10.5 Incompatible materials:** No further relevant information available.

- **10.6 Hazardous decomposition products:**

No dangerous products of decomposition if used and stored according to specifications.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

#### 10563-29-8 N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine

Oral	LD50	1670 mg/kg (rat)
Dermal	LD50	1310 mg/kg (rab)

#### 25620-58-0 trimethylhexane-1,6-diamine

Oral	LD50	910 mg/kg (rat)
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#### 1477-55-0 m-phenylenebis(methylamine)

Inhalative	LC50/4 h => LC50/4	2,4 mg/l (rat)
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#### 112-24-3 3,6-diazaoctanethylenediamin

Oral	LD50	1716 mg/kg (rab)
Dermal	LD50	1465 mg/kg (rab)

- **Primary irritant effect:**

- **Skin corrosion/irritation** Caustic effect on skin and mucous membranes.

- **Serious eye damage/irritation** Causes serious eye damage.

- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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**- Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

No experimentally found toxicological data are available for this preparation.

**SECTION 12: Ecological information****- 12.1 Toxicity****- Aquatic toxicity:****25620-58-0 trimethylhexane-1,6-diamine**

EC50/24 h | 31,5 mg/l (DA)

EC50/72 h | 29,5 mg/l (Algae)

**- 12.2 Persistence and degradability** No further relevant information available.**- 12.3 Bioaccumulative potential** No further relevant information available.**- 12.4 Mobility in soil** No further relevant information available.**- Ecotoxicological effects:****- Remark:** Harmful to fish**- Additional ecological information:****- General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Danger to drinking water if even small quantities leak into the ground.

Do not allow product to reach ground water, water course or undiluted sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Harmful to aquatic organisms

**- 12.5 Results of PBT and vPvB assessment****- PBT:** Not applicable.**- vPvB:** Not applicable.**- 12.6 Other adverse effects** No further relevant information available.**SECTION 13: Disposal considerations****- 13.1 Waste treatment methods****- Recommendation** Disposal must be made according to official regulations.**- Uncleaned packaging:****- Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****- 14.1 UN-Number****- ADR, IMDG, IATA**

UN3259

**- 14.2 UN proper shipping name****- ADR**

3259 AMINES, SOLID, CORROSIVE, N.O.S. (N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines)

**- IMDG, IATA**

AMINES, SOLID, CORROSIVE, N.O.S. (N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines)

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**- 14.3 Transport hazard class(es)****- ADR**

- Class 8 (C8) Corrosive substances.  
 - Label 8

**- IMDG, IATA**

- Class 8 Corrosive substances.  
 - Label 8

**- 14.4 Packing group**

- ADR, IMDG, IATA I

- 14.5 Environmental hazards: Not applicable.

**- 14.6 Special precautions for user**

- Warning: Corrosive substances.  
 - Danger code (Kemler): 88  
 - EMS Number: F-A,S-B  
 - Segregation groups Alkalis

**- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**- Transport/Additional information:****- ADR**

- Limited quantities (LQ) 0  
 - Excepted quantities (EQ) Code: E0  
 Not permitted as Excepted Quantity  
 - Transport category 1  
 - Tunnel restriction code E

**- IMDG**

- Limited quantities (LQ) 0  
 - Excepted quantities (EQ) Code: E0  
 Not permitted as Excepted Quantity

**- UN "Model Regulation":**

UN3259, AMINES, SOLID, CORROSIVE, N.O.S. (N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines), 8, I

**SECTION 15: Regulatory information****- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****- National regulations:**

- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### - Relevant phrases

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.
- R21 Harmful in contact with skin.
- R21/22 Harmful in contact with skin and if swallowed.
- R22 Harmful if swallowed.
- R23 Toxic by inhalation.
- R34 Causes burns.
- R35 Causes severe burns.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R36/38 Irritating to eyes and skin.
- 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.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### - Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Met. Corr. 1: Corrosive to metals, Hazard Category 1
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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