

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.10.2015

Version number 18

Revision: 28.10.2015

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

- **1.1 Product identifier**
- **Trade name: UHU plus endfest 300 (Binder)**
- **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** Adhesives
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
UHU GmbH & Co.KG  
Herrmannstraße 7  
D-77815 Bühl (Baden)  
Tel.:0049-(0)7223-284-0  
email: info@uhu.boltongroup.de
- Fax: 0049-(0)7223-284-245
- **Further information obtainable from: CRD**
- **1.4 Emergency telephone number: Tel.: +49 (0) 72 23/28 40**

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS09 environment

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



GHS07

|               |   |
|---------------|---|
| 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. |

- **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
- **Hazard-determining components of labelling:**  
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)  
reaction product: bisphenol-F-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
- **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**  
P101 If medical advice is needed, have product container or label at hand.

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- P102 Keep out of reach of children.  
 P103 Read label before use.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P273 Avoid release to the environment.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

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<br>NLP: 500-033-5<br>Reg.nr.: 01-2119456619-26-0002 | reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)<br>⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 | 70-100%  |
| CAS: 9003-36-5<br>Reg.nr.: 01-2119454392-40-0000                    | reaction product: bisphenol-F-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)<br>⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317  | 5,0-<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:** 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.

Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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- **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:**  
Water spray  
Carbon dioxide  
Foam  
Fire-extinguishing powder
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
No special measures required.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Send for recovery or disposal in suitable receptacles.
- **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 13 for disposal information.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Store in cool, dry place in tightly closed receptacles.  
Prevent formation of aerosols.
- **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:** Not required.
- **Further information about storage conditions:**  
Store receptacle in a well ventilated area.  
Keep container tightly sealed.
- **Storage class:** 12
- **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.  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.  
 Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.*
- **Respiratory protection:** *Not necessary if room is well-ventilated.*
- **Protection of hands:**  
*Rubber gloves*



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 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:** *Not required.*

### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

|                           |                      |
|---------------------------|----------------------|
| · <b>Form:</b>            | Fluid                |
| · <b>Colour:</b>          | Colourless           |
| · <b>Odour:</b>           | Weak, characteristic |
| · <b>Odour threshold:</b> | Not determined.      |

|                             |   |
|-----------------------------|---|
| · <b>pH-value at 20 °C:</b> | 6 |
|-----------------------------|---|

##### · Change in condition

|                                       |               |
|---------------------------------------|---------------|
| · <b>Melting point/Melting range:</b> | Undetermined. |
| · <b>Boiling point/Boiling range:</b> | Undetermined. |

|                       |                 |
|-----------------------|-----------------|
| · <b>Flash point:</b> | Not applicable. |
|-----------------------|-----------------|

|   |                 |
|---|-----------------|
| · <b>Flammability (solid, gaseous):</b> | Not applicable. |
|---|-----------------|

##### · Ignition temperature:

|                                     |                 |
|-------------------------------------|-----------------|
| · <b>Decomposition temperature:</b> | Not determined. |
|-------------------------------------|-----------------|

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|   |   |
|---|---|
| · <b>Self-igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| <b>Lower:</b>                                     | Not determined.                               |
| <b>Upper:</b>                                     | Not determined.                               |
| · <b>Vapour pressure:</b>                         | Not determined.                               |
| · <b>Density at 20 °C:</b>                        | 1,15 g/cm <sup>3</sup>                        |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapour density</b>                           | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with water:</b>  | Not miscible or difficult to mix.             |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |   |
| <b>Dynamic:</b>                                   | Not determined.                               |
| <b>Kinematic at 20 °C:</b>                        | 40000 s (DIN 53211/4)                         |
| · <b>Solvent content:</b>                         |   |
| <b>Organic solvents:</b>                          | 0,0 %   |
| <b>VOC (EC)</b>                                   | 0,00 %  |
| <b>Solids content:</b>                            | 91,0 %  |
| · <b>9.2 Other information</b>                    | No further relevant information available.    |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Exothermic polymerisation.  
Reacts with amines.
- **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 decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.  
 Also poisonous for fish and plankton in water bodies.  
 Toxic for aquatic organisms  
 Do not allow product to reach ground water, water course or sewage system.
- **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**  
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
 Disposal must be made according to official regulations.

- **European waste catalogue**

|           |  |
|-----------|--|
| 08 04 09* | waste adhesives and sealants containing organic solvents or other dangerous substances |
|-----------|--|

- **Uncleaned packaging:**
- **Recommendation:**  
 Packagings that may not be cleansed are to be disposed of in the same manner as the product.

### 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), reaction product: bisphenol-F-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))
- 3082 UMWELTGEFÄHRDENDER STOFF, FLÜSSIG, N.A.G. (Reaktionsprodukt: Bisphenol-A-Epichlorhydrinharze mit durchschnittlichem

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· **IMDG, IATA**

Molekulargewicht  $\leq 700$ , Bisphenol-F-Epichlorhydrinharze MG < 700)  
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight  $\leq 700$ ), reaction product: bisphenol-F-(epichlorhydrin) epoxy resin (number average molecular weight  $\leq 700$ ))

· **14.3 Transport hazard class(es)**

· **ADR, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **IMDG**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight  $\leq 700$ )

· **Marine pollutant:**

Yes

· **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 Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **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

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|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | 5L<br>Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml   |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN); EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT ≤ 700), REACTION PRODUCT: BISPHENOL-F-(EPICHLORHYDRIN) EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT ≤ 700)), 9, III, (E) |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **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.
- **Department issuing MSDS:** CRD
- **Contact:**  
 Frau A. Liar,  
 Herr Dr. C. Hanf
- **Abbreviations and acronyms:**  
 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
- **\* Data compared to the previous version altered.**

ENG



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Version number 20

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

- **1.1 Product identifier**
- **Trade name: UHU plus endfest 300 (Härter)**
- **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** Adhesives
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
UHU GmbH & Co.KG  
Herrmannstraße 7  
D-77815 Bühl (Baden)  
Tel.: 0049-(0)7223-284-0  
email: info@uhu.boltongroup.de
- Fax: 0049-(0)7223-284-245
- **Further information obtainable from: CRD**
- **1.4 Emergency telephone number: Tel.: +49 (0) 72 23/28 40**

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

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

- **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:**  
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine  
Triethylentetramin
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.
- **Precautionary statements**  
P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read label before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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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.

P405 Store locked up.

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: 10563-29-8<br>EINECS: 234-148-4 | N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine<br>-----<br>⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 | 5,0-<10% |
| CAS: 112-24-3<br>EINECS: 203-950-6   | Triethylentetramin<br>-----<br>⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412                            | 5,0-<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:**  
Immediately remove any clothing soiled by the product.  
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:**  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **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:**  
Water spray  
Carbon dioxide  
Foam

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Fire-extinguishing powder

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.

In case of fire, the following can be released:

 Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide (CO)

· **5.3 Advice for firefighters**

· **Protective equipment:**

Do not inhale explosion gases or combustion gases.

No special measures required.

**SECTION 6: Accidental release measures**

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

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

Use neutralising agent.

Send for recovery or disposal in suitable receptacles.

· **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 13 for disposal information.

**SECTION 7: Handling and storage**

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Store in cool, dry place in tightly closed receptacles.

Prevent formation of aerosols.

· **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:** Not required.

· **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

· **Storage class:** 8 A

· **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:**

|                             |
|-----------------------------|
| 112-24-3 Triethylentetramin |
|-----------------------------|

|   |
|---|
| MAK (Germany)   als Dampf und Aerosol;vgl.Abschn.IV |
|---|

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

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- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 The usual precautionary measures are to be adhered to when handling chemicals.  
 Avoid contact with the eyes and skin.  
 Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.
- **Protection of hands:**  
 Rubber gloves  
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 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:** Not required.

### SECTION 9: Physical and chemical properties

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

|                  |                 |
|------------------|-----------------|
| Form:            | Fluid           |
| Colour:          | Yellow          |
| Odour:           | Amine-like      |
| Odour threshold: | Not determined. |
- **pH-value at 20 °C:** 12 (1:1 in H<sub>2</sub>O)
- **Change in condition**

|                              |               |
|------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 278 °C        |
- **Flash point:** 135 °C
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** 0 °C
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Product is not selfigniting.
- **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:** 0,95 g/cm<sup>3</sup>
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.

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- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with water:</b>  | Not miscible or difficult to mix.          |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic at 20 °C:</b>                          | 32500 mPas                                 |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 0,0 %                                      |
| <b>VOC (EC)</b>                                   | 0,00 %                                     |
| <b>· Solids content:</b>                          | 84,2 %                                     |
| <b>· 9.2 Other information</b>                    | No further relevant information available. |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **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 decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**

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

#### 112-24-3 Triethylentetramin

|        |      |                    |
|--------|------|--------------------|
| Oral   | LD50 | 2500 mg/kg (rat)   |
| Dermal | LD50 | 805 mg/kg (rabbit) |

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.

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- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
 Must not reach sewage water or drainage ditch undiluted or unneutralised.  
 Danger to drinking water if even small quantities leak into the ground.  
 Do not allow product to reach ground water, water course or sewage system.
- **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**  
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
 Disposal must be made according to official regulations.

- **European waste catalogue**

|           |  |
|-----------|--|
| 08 04 09* | waste adhesives and sealants containing organic solvents or other dangerous substances |
|-----------|--|

- **Uncleaned packaging:**
- **Recommendation:**  
 Packagings that may not be cleansed are to be disposed of in the same manner as the product.

### SECTION 14: Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                | UN2735  |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, TRIETHYLENETETRAMINE)<br>POLYAMINES, LIQUID, CORROSIVE, N.O.S. (N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine, TRIETHYLENETETRAMINE) |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>               | <div style="text-align: center;">  </div>  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 Corrosive substances.<br>8  |
| <ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                            | II  |
| <ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>                 | No  |

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|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> </ul> | Warning: Corrosive substances.<br>80<br>F-A, S-B<br>Alkalis  |
| <ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>  | Not applicable.  |
| · <b>Transport/Additional information:</b>  |  |
| · <b>ADR</b>  |  |
| <ul style="list-style-type: none"> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>   | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml                |
| <ul style="list-style-type: none"> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>   | 2<br>E   |
| · <b>IMDG</b>   |  |
| <ul style="list-style-type: none"> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>   | 1 kg<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml              |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (N'-(3-AMINOPROPYL)-N,N-DIMETHYLPROPANE-1,3-DIAMINE, TRIETHYLENETETRAMINE), 8, II, (E) |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **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**  
 H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H412 Harmful to aquatic life with long lasting effects.
- **Department issuing MSDS:** CRD
- **Contact:**  
 Frau A. Liar,  
 Herr Dr. C. Hanf
- **Abbreviations and acronyms:**  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

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Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3  
· \* **Data compared to the previous version altered.**

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