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

- **1.1 Product identifier**
  - **Trade name:** TAFigel® PUR 56

- **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**
  - Rheology modifier

- **1.3 Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    - Münzing Chemie GmbH
    - Münzingstrasse 2
    - 74232 Abstatt, Germany
    - E-Mail: info@munzing.com
    - Tel.: +49 7131 987-100

- **Further information obtainable from:**
  - Product Safety Department
  - E-mail (MSDS): mds@munzing.com

- **1.4 Emergency telephone number:** For Chemical Emergencies: CHEMTREC: +1 703 741 5970

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
    - Eye Irrit. 2 H319 Causes serious eye irritation.

- **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](image)

- **Signal word** Warning

- **Hazard statements**
  - H319 Causes serious eye irritation.

- **Precautionary statements**
  - P264 Wash thoroughly after handling.
  - P280 Wear eye protection / face protection.
  - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337+P313 If eye irritation persists: Get medical advice/attention.

- **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
    - PBT: None.
    - vPvB: None.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
  - **Description:** polyurethane emulsion

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**Safety data sheet**

according to 1907/2006/EC, Article 31

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Version number 1
Revision: 10.05.2017

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**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; consult doctor in case of complaints.
  - **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** If symptoms persist consult doctor.

- **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.

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**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents:**
    - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
    - Use fire extinguishing methods suitable to surrounding conditions.

- **5.2 Special hazards arising from the substance or mixture**
  - **In case of fire, the following can be released:**
    - Nitrogen oxides (NOx)
    - Carbon monoxide (CO)

- **5.3 Advice for firefighters**
  - **Protective equipment:** Do not inhale explosion gases or combustion gases.
  - **Additional information**
    - Product contains water and is non-combustible.
    - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Wear protective clothing.
  - Particular danger of slipping on leaked/spilled product.

- **6.2 Environmental precautions:**
  - Dilute with plenty of water.
  - 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).
  - Ensure adequate ventilation.

- **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.

---

**Dangerous components:**

<table>
<thead>
<tr>
<th>CAS: 143-22-6</th>
<th>2-[2-(2-Butoxyethoxy)ethoxy]ethanol</th>
<th>Eye Dam. 1, H318</th>
<th>20-50%</th>
</tr>
</thead>
</table>

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

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(Cntl. of page 1)

(Cntl. on page 3)
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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:** Protect from heat.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - Storage:
    - Requirements to be met by storerooms and receptacles: Store in a cool location.
    - Information about storage in one common storage facility: Not required.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **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:**
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**DNELs**

<table>
<thead>
<tr>
<th>CAS: 143-22-6 2-[2-(2-Butoxyethoxy)ethoxy]ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral consumer, long-term exposure, systemic effects</td>
</tr>
<tr>
<td>Dermal worker, long-term exposure, systemic effects</td>
</tr>
<tr>
<td>Inhalative consumer, long-term exposure, systemic effects</td>
</tr>
<tr>
<td>worker, long-term exposure, systemic effects</td>
</tr>
<tr>
<td>consumer, long-term exposure, systemic effects</td>
</tr>
</tbody>
</table>

**PNECs**

<table>
<thead>
<tr>
<th>CAS: 143-22-6 2-[2-(2-Butoxyethoxy)ethoxy]ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water 1.5 mg/l (not specified)</td>
</tr>
<tr>
<td>marine water 0.15 mg/l (not specified)</td>
</tr>
<tr>
<td>aqua - intermittent release 5 mg/l (not specified)</td>
</tr>
<tr>
<td>soil 0.45 mg/kg (not specified)</td>
</tr>
<tr>
<td>sediment (fresh water) 0.13 mg/kg (not specified)</td>
</tr>
<tr>
<td>sewage treatment plant 200 mg/l (not specified)</td>
</tr>
</tbody>
</table>

- **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.
  Avoid contact with the eyes and skin.
- **Respiratory protection:** Use suitable respiratory protective device only when aerosol or mist is formed.
- **Protection of hands:**
  Only use chemical-protective gloves with CE-labelling of category III.
  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**
  Nitrile rubber, NBR
  Fluorocarbon rubber (Viton)
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Recommended thickness of the material: ≥ 0.4 mm
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**
  For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).
  The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

- **Eye protection**: Safety glasses
- **Body protection**: Protective work clothing

### SECTION 9: Physical and chemical properties

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

- **General Information**
  - **Appearance**:
    - **Form**: Dispersion
    - **Colour**: White
    - **Odour**: Characteristic
    - **Odour threshold**: Not determined.

- **pH-value (20 g/l) at 20 °C**: ≈ 6.5 (DIN ISO 976)

- **Change in condition**
  - **Initial boiling point and boiling range**: ≈ 100 °C
  - **Flash point**: > 100 °C (DIN EN ISO 2719)

- **Ignition temperature**: Not determined.

- **Decomposition temperature**: Not determined.

- **Auto-ignition temperature**: Product is not self-igniting.

- **Explosive properties**: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits**:
  - **Lower**: Not determined.
  - **Upper**: Not determined.

- **Oxidising properties**: None.

- **Vapour pressure**: Not determined.

- **Density at 20 °C**: ≈ 1.06 g/cm³ (DIN EN ISO 2811-1)

- **Relative density**: Not determined.

- **Vapour density**: Not determined.

- **Evaporation rate**: Not determined.

- **Solubility in / Miscibility with water**: Fully miscible.

- **Partition coefficient: n-octanol/water**: Not determined.
**Trade name:** TAFigel® PUR 56

(Contd. of page 4)

<table>
<thead>
<tr>
<th><strong>Viscosity:</strong> Dynamic at 20 °C:</th>
<th>≈ 10000 mPas (DIN EN ISO 3219)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solvent content:</strong> Water:</td>
<td>≈ 40 %</td>
</tr>
<tr>
<td><strong>9.2 Other information</strong></td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

**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 Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
  |**CAS:** 143-22-6 2-[2-(2-Butoxyethoxy)ethoxy]ethanol |
  |**Oral** | **LD50:** >5,170 mg/kg (rat) |
  |**Dermal** | **LD50:** 3,540 mg/kg (rabbit) |
  - Primary irritant effect:
  - Skin corrosion/irritation Based on available data, the classification criteria are not met.
  - Serious eye damage/irritation Causing serious eye irritation.
  - Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
  - CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  - 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:
    |**CAS:** 143-22-6 2-[2-(2-Butoxyethoxy)ethoxy]ethanol |
    |**EC50 (static):** >500 mg/l (daphnia) (Daphnia magna / 48 h) |
    |**EC10 (static):** 612.6 mg/l (algae) (Desmodesmus subspicatus / 72 h) |
    |**LC50 (static):** >1,995 mg/l (bacteria) (Activated sludge / 30 min. (OECD 209)) |
    |**LC50 (static):** 2,200-4,600 mg/l (fish) (Leuciscus idus / 96 h) |
  - **12.2 Persistence and degradability** No further relevant information available.

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· Degree of elimination: 60%
· 12.3 Bioaccumulative potential No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Ecotoxicological effects:
· Behaviour in sewage processing plants:
  Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. Do not release untreated into natural waters.
· Additional ecological information:
  · General notes:
    Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· 12.5 Results of PBT and vPvB assessment
  According to Annex XIV of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification.
· 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.

<table>
<thead>
<tr>
<th>European waste catalogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 02 13 waste plastic</td>
</tr>
</tbody>
</table>

· Uncleaned packaging:
  · Recommendation: Disposal must be made according to official regulations.
  · Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>· 14.1 UN-Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>· 14.2 UN proper shipping name</td>
</tr>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
</tr>
<tr>
<td>· 14.3 Transport hazard class(es)</td>
</tr>
<tr>
<td>ADR/RID/ADN, ADN, IMDG, IATA</td>
</tr>
<tr>
<td>· 14.4 Packing group</td>
</tr>
<tr>
<td>ADR/RID/ADN, IMDG, IATA</td>
</tr>
<tr>
<td>· 14.5 Environmental hazards:</td>
</tr>
<tr>
<td>Marine pollutant:</td>
</tr>
<tr>
<td>· 14.6 Special precautions for user</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td>· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

(Contd. of page 7)
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.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations:
  - Water hazard class: Water hazard class 1 (German AwSV, Self-assessment): slightly 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
  H318 Causes serious eye damage.

- Department issuing SDS: Product Safety Department
  E-Mail: msds@munzing.com

- 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
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2