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

1.1 Product identifier
- Trade name: TAFIGEL® PUR 60

1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

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

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
  The product is not classified, according to the CLP regulation.

2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008 Void
- Hazard pictograms Void
- Signal word Void
- Hazard statements Void
- Additional information:
  Safety data sheet available on request.

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 dispersion

**Dangerous components:**
- CAS: 143-22-6
- EINECS: 205-592-6
- Reg.nr.: 01-2119531322-53

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Reg.nr.</th>
<th>2-[2-(2-Butoxyethoxy)ethoxy]ethanol</th>
<th>Eye Dam. 1, H318</th>
<th>10-20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>143-22-6</td>
<td>205-592-6</td>
<td>01-2119531322-53</td>
<td>2-[2-(2-Butoxyethoxy)ethoxy]ethanol</td>
<td>Eye Dam. 1, H318</td>
<td>10-20%</td>
</tr>
</tbody>
</table>

**Additional information:** For the wording of the listed hazard 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; 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.

(Contd. on page 2)
Trade name: TAFIGEL® PUR 60

(Contd. of page 1)

· 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.

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.

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).
· 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: 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.

(Contd. on page 3)
Trade name: TAFIGEL® PUR 60

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
  **CAS: 143-22-6 2-[2-(Butoxyethoxy)ethoxy]ethanol**
<table>
<thead>
<tr>
<th>Route</th>
<th>Exposure</th>
<th>Effect</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>consumer, long-term exposure, systemic effects</td>
<td>2.5 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>worker, long-term exposure, systemic effects</td>
<td>50 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>consumer, long-term exposure, systemic effects</td>
<td>25 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>worker, long-term exposure, systemic effects</td>
<td>195 mg/m³ (human)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consumer, long-term exposure, systemic effects</td>
<td>117 mg/m³ (human)</td>
<td></td>
</tr>
</tbody>
</table>

- PNECs
  **CAS: 143-22-6 2-[2-(Butoxyethoxy)ethoxy]ethanol**
<table>
<thead>
<tr>
<th>Environment</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>1.5 mg/l (not specified)</td>
</tr>
<tr>
<td>marine water</td>
<td>0.15 mg/l (not specified)</td>
</tr>
<tr>
<td>aqua - intermittent release</td>
<td>5 mg/l (not specified)</td>
</tr>
<tr>
<td>soil</td>
<td>0.45 mg/kg (not specified)</td>
</tr>
<tr>
<td>sediment (fresh water)</td>
<td>0.13 mg/kg (not specified)</td>
</tr>
<tr>
<td>sewage treatment plant</td>
<td>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)
    Recommended thickness of the material: ≥ 0.4 mm
  - 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:** Dispersion
  - **Color:** White
  - **Odor:** Characteristic
  - **Odour threshold:** Not determined.
  - **pH-value (20 g/l) at 20 °C:** ≈ 6.5 (DIN ISO 976)
  - **Change in condition**
    - **Melting point/freezing point:** Undetermined.
    - **Initial boiling point and boiling range:** ≈ 100 °C
  - **Flash point:** > 100 °C (DIN EN ISO 2719)
  - **Flammability (solid, gas):** Not applicable.
  - **Ignition temperature:** Not determined.
  - **Decomposition temperature:** Not determined.
  - **Auto-ignition temperature:** Product is not selfigniting.
  - **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.
  - **Viscosity:**
    - **Dynamic at 20 °C:** ≈ 20000 mPas (DIN EN ISO 3219)
  - **Solvent content:**
    - **Water:** ≈ 40 %
  - **9.2 Other information**
    - 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: 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        | Dermal          |
   | LD50        | LD50            |
   | >5,170 mg/kg (rat) | 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: Based on available data, the classification criteria are not met.
   - Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
   - CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Based on available data, the classification criteria are not met.
   - 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) | EC10 (static) | LC50 (static) |
     | >300 mg/l (daphnia) (Daphnia magna / 48 h) | 612.6 mg/l (alga) (Desmodesmus subspicatus / 72 h) | >1,995 mg/l (bacteria) (Activated sludge / 30 min. (OECD 209)) |
     | 2,200-4,600 mg/l (fish) (Leuciscus idus / 96 h) |

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:
- 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.

- European waste catalogue
  | 07 02 08* | Other still bottoms and reaction residues |

- 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

- 14.1 UN-Number
  - ADR/RID/ADN, ADN, IMDG, IATA: Void

- 14.2 UN proper shipping name
  - ADR/RID/ADN, ADN, IMDG, IATA: Void

- 14.3 Transport hazard class(es)
  - ADR/RID/ADN, ADN, IMDG, IATA
    - Class: Void

- 14.4 Packing group
  - ADR/RID/ADN, IMDG, IATA: Void

- 14.5 Environmental hazards:
  - Marine pollutant: No

- 14.6 Special precautions for user: Not applicable.

- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

- Transport/Additional information: Not a dangerous good to the above specifications.

- UN "Model Regulation": Void

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.
  - National regulations:
    - Waterhazard class: Water hazard class 1 (German AvSV, 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