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

· Product name: **Capa™ 2054**

· Application of the substance / the preparation
  - Footwear industry
  - Automotive industry
  - Paints
  - Construction
  - Polyurethane

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier: Perstorp UK Limited
    - Baronet Road
    - Warrington
    - Cheshire WA4 6HA
    - United Kingdom
    - Tel. +44 (0) 1925 643500
    - Fax. +44 (0) 1925 232207
    - Web: www.perstorp.com
  
  Perstorp Polyols Inc
  - 600 Matzinger Road
  - Toledo, Ohio 43612
  - Tel. 419-729-5448,
    - 800-537-0280
  - Fax. 419-729-3291

  · Information department: productinfo@perstorp.com
  
  · Emergency telephone number:
    - (United States) - CHEMTREC 1-800-424-9300.
    - (Int.) +46 8 337043 (Emergency Response Center, Sweden)

2 Composition/information on ingredients

· Chemical components:
  - 111-46-6 2,2'-oxybisethanol < 2%
  - 502-44-3 hexan-6-olide < 2%
  - 36890-68-3 2-oxepanone, polymer with 2,2'-oxybis[ethanol] ≥ 97%

3 Hazards identification

· Classification of the substance or mixture
  · Hazard description: Not applicable
  · Classification system:
    · NFPA ratings (scale 0 - 4)
      - Health = 1
      - Fire = 1
      - Reactivity = 0

(Contd. on page 2)
Product name: **Capa™ 2054**

**HMIS-ratings (scale 0 - 4)**

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Health** = 1
- **Fire** = 1
- **Reactivity** = 0

**Other hazards**

Caution - substance not yet fully tested. Due to the structure of the substance and studies made on similar products we assume that the product is unclassified.

**4 First aid measures**

- **After inhalation:** First aid measures not required, but get fresh air for personal comfort.
- **After skin contact:**
  First aid measures not required, but wash exposed skin with soap and water for hygienic reasons.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**
  Rinse mouth then drink plenty of water.
  If a large quantity has been ingested or you feel unwell, get medical advice/attention.

**5 Firefighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**
    Water spray
    Foam
    Carbon dioxide
    Fire-extinguishing powder
- **Special hazards arising from the substance or mixture**
  In case of fire, the following can be released:
  - Carbon monoxide (CO)
  - Monomer (2-Oxepanone, Hexan-6-Olide, CAS 502-44-3)
- **Protective equipment:**
  Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**
  Wear safety glasses, gloves, protective clothing and rubber boots for hygienic reasons.
- **Environmental precautions:**
  Prevent from spreading (e.g. by damming-in or oil barriers).
  Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Small spill:
    Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
  - Large spill:
    Pump up the product into a spare container suitably labelled.
    Clean the affected area carefully; suitable cleaners are:
    - Water
7 Handling and storage

- **Precautions for safe handling**
  - Wear personal protective equipment according to section 8 if risk of exposure.
  - Keep away from heat and direct sunlight.
- **Information about protection against explosions and fires:** Not applicable
- **Storage:**
  - Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
  - Further information about storage conditions:
    - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Components with limit values that require monitoring at the workplace:**
  - 111-46-6 2,2'-oxybisethanol
    - WEEL 10 mg/m³
- **Additional information:**
  - OSHA-Ca (Occupational Safety & Health Administration)
    - PEL not established.
  - TLV (Threshold Limit Value established by ACGIH)
    - See value above.
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    - See value above.
- **Personal protective equipment:**
  - General protective and hygienic measures:
    - The usual precautionary measures for handling chemicals should be followed.
  - Breathing equipment: Not necessary if room is well-ventilated.
  - Protection of hands:
    - Protective gloves not really required. However, we recommend using protective gloves made of rubber.
  - Material of gloves
    - PVC gloves
    - Chloroprene rubber, CR
    - Butyl rubber, BR
    - 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.
  - Penetration time of glove material
    - The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - Eye protection:
    - Safety glasses
**Product name:** Capa™ 2054

- **Body protection:** Normal work clothes for the chemical industry (long legs and sleeves).
- **Limitation and supervision of exposure into the environment** Not applicable

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th><strong>General Information</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td>Form: Liquid</td>
<td></td>
</tr>
<tr>
<td>Color: Colorless</td>
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<tr>
<td>Odor: uncharacteristic</td>
<td></td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range: 18 - 23 °C (64 - 73 °F)</td>
<td></td>
</tr>
<tr>
<td>Boiling point/Boiling range: Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point:</strong> 275°C (527 °F)</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong> approx 200 °C (approx 392 °F)</td>
<td></td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong></td>
<td></td>
</tr>
<tr>
<td>Deactivation temperature:</td>
<td></td>
</tr>
<tr>
<td>Danger of explosion:</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Explosion limits: Not applicable</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties: Not oxidizing.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure at 20°C (68 °F):</td>
<td>&lt; 2 mbar</td>
</tr>
<tr>
<td>Density at 20°C (68 °F): 1.05 g/cm³ (8.762 lbs/gal)</td>
<td></td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water: Not miscible or difficult to mix.</td>
<td></td>
</tr>
<tr>
<td>Segregation coefficient (n-octanol/water): Not determined.</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic at 60°C (140 °F): 60 mPas</td>
<td></td>
</tr>
<tr>
<td><strong>Other information:</strong> No further relevant information available.</td>
<td></td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

- **Reactivity**
  - There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.
- **Chemical stability** The product is stable at normal conditions.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat
- **Incompatible materials:**
  - Avoid contact with acids.
  - Avoid contact with bases.
- **Hazardous decomposition products:**
  - Possible decomposition and release of monomer at temperatures above 200°C.
11 Toxicological information

- Acute toxicity:
  - LD/LC50 values:
    - 36890-68-3 2-oxepanone, polymer with 2,2'-oxybis[ethanol]
      - Oral LD50 >2000 mg/kg (rat) (OECD 423)

- Primary irritant effect:
  - on the skin:
    - No irritant effect. (OECD 404)
  - on the eye:
    - No irritating effect. (OECD 405)
  - Sensitization: No sensitizing effects known.
  - Carcinogenicity: No information available.
  - Mutagenicity: No information available.
  - Reproductive toxicity: No information available.
  - Remark:
    - Caution - substance not yet fully tested. Due to the structure of the substance and studies made on similar products we assume that the product is unclassified.

12 Ecological information

- Aquatic toxicity:
  - 36890-68-3 2-oxepanone, polymer with 2,2'-oxybis[ethanol]
    - EC50/96h: 80-82 mg/l (Brachydanio rerio) (OECD 203)
    - NOEC: (16hr) 330 mg/l (Pseudomonas putida) (OECD 209)
      - 39 mg/l (Brachydanio rerio) (OECD 203)

- Persistence and degradability:
  - 36890-68-3 2-oxepanone, polymer with 2,2'-oxybis[ethanol]
    - BOD28: >60 % (-) (OECD 301B)

- Other information: The product is biodegradable.
- Behavior in environmental systems:
  - Bioaccumulative potential: No information available.
- Remark:
  - Caution - substance not yet fully tested. Due to the structure of the substance and studies made on similar products we assume that the product is unclassified.

13 Disposal considerations

- Waste treatment methods: The product is not classified as hazardous waste.
- Uncleaned packagings:
  - Contaminated packaging materials must be disposed of in the same manner as the product.
- Recommendation: Disposal must be made according to official regulations.
### 14 Transport information

- **UN Number**
  - DOT, ADR, ADN, IMDG, IATA: -

- **Proper shipping name (Technical Name)**
  - DOT, ADR, ADN, IMDG, IATA: -

- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA: -

- **Packing group**
  - DOT, ADR, ADN, IMDG, IATA: -

- **Environmental hazards:**
  - Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

- **Transport/Additional information:** Not dangerous according to the above specifications.

### 15 Regulatory information

- **Sara**
  - **Section 355 (extremely hazardous substances):** None of the ingredient is listed.
  - **Section 313 (Specific toxic chemical listings):** None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**
  - CERCLA RQ 100 lbs for 822-06-0

- **IARC (International Agency for Research on Cancer)**
  - None of the ingredients is listed.

- **NTP (National Toxicology Program)**
  - None of the ingredients is listed.

- **Inventory status:**
  - **Australian Inventory of Chemical Substances (AICS)**
    - All ingredients are listed.
  - **Canadian Domestic Substance List (DSL)**
    - All ingredients are listed.
  - **Canadian Non Domestic Substance List (NDSL)**
    - None of the ingredients is listed.
  - **Chinese Chemical Inventory of Existing Chemical Substances (CIECS)**
    - All ingredients are listed.
### Product name: **Capa™ 2054**

| **· European EINECS/ELINCS Listing** | Exempt, polymer |
| **· Japan Existing and New chemical Substance List (ENCS)** | All ingredients are listed. |
| **· Korea Existing Chemical Inventory (KECI)** | All ingredients are listed. |
| **· New Zealand Inventory of Chemicals (NZIoC)** | All ingredients are listed. |
| **· Philippines Inventory of Chemicals and Chemical Substances (PICCS)** | All ingredients are listed. |
| **· TSCA listing** | All ingredients are listed. |
| **· Other regulations, limitations and prohibitive regulations** | |
| **· Proposition 65** | None of the ingredients is listed. |
| **· Chemicals known to cause reproductive toxicity for females:** | None of the ingredients is listed. |
| **· Chemicals known to cause reproductive toxicity for males:** | None of the ingredients is listed. |
| **· Chemicals known to cause developmental toxicity:** | None of the ingredients is listed. |

### 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.

- **Department issuing MSDS:** Corporate EHSQ Perstorp Holding AB
- **· Data compared to the previous version altered.**