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

- **Product name:** Capa™ 2403D
- **Product identifier**
  - 2-oxepanone, polymer with 1,4-butanediol
  - Cas No.: 31831-53-5
  - EC No: Polymer
- **Application of the substance / the preparation**
  - Adhesives
  - Binder
  - Plastics industry
  - Manufacture of 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
    - www.perstorp.com
  - **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 characterization: Substances** Yes.
- **Chemical components:**
  
<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Chemical Name</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>31831-53-5</td>
<td>2-oxepanone, polymer with 1,4-butanediol</td>
<td>≥ 99%</td>
</tr>
</tbody>
</table>

3 Hazards identification

- **Hazard description:** No special hazards are associated with this product.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 1
  - Reactivity = 0

(Contd. on page 2)
Product name: Capa™ 2403D

· 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 with 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
  Foam
  Carbon dioxide
  Fire-extinguishing powder
· For safety reasons unsuitable extinguishing agents: Water with full jet
· 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: Do not allow to enter sewers/ surface or ground water.
· Methods and material for containment and cleaning up:
  Pick up mechanically.
  Clean the affected area carefully; suitable cleaners are:
  water
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
Product name: **Capa™ 2403D**

See Section 13 for disposal information.

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

- **Additional information:**
  - **OSHA-Ca (Occupational Safety & Health Administration)**
    - Substance is not listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    - Substance is not listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - Substance is not listed.

- **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

- **Body protection:** Normal work clothes for the chemical industry (long legs and sleeves).
9 Physical and chemical properties

- **General Information**
  - **Appearance:** Solid (wax)
  - **Color:** Light yellow
  - **Odor:** Odorless
- **pH-value:** Neutral
- **Change in condition**
  - **Melting point/Melting range:** 55-60 °C (131-140 °F)
  - **Boiling point/Boiling range:** Not determined.
  - **Flash point:** 275 °C (527 °F) (open cup)
  - **Flammability (solid, gaseous):** Not determined.
  - **Ignition temperature:** ca 200 °C (ca 392 °F)
- **Danger of explosion:** Not explosive.
- **Explosion limits:** Not applicable
- **Oxidizing properties:** Not oxidizing.
- **Vapor pressure:** Not determined.
- **Density at 60 °C (140 °F):** 1.05 g/cm³ (8.762 lbs/gal)
- **Solubility in / Miscibility with Water:** Insoluble.
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - **Dynamic at 80 °C (176 °F):** 1670 mPas
  - **Other information:** No further relevant information available.

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.
- **Thermal decomposition / conditions to be avoided:**
  - To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions**
  - No dangerous reactions known.
- **Conditions to avoid**
  - **Heat**
- **Incompatible materials:**
  - Avoid contact with acids.
  - Avoid contact with bases.
Product name: **Capa™ 2403D**

<table>
<thead>
<tr>
<th>Hazardous decomposition products:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible decomposition and release of monomer at temperatures above 200°C (392°F).</td>
</tr>
</tbody>
</table>

### 11 Toxicological information

- **Acute toxicity:**
  - **LD/LC50 values:**
    - The polymer is not bioavailable because of its molecular size.

<table>
<thead>
<tr>
<th>31831-53-5 2-oxepanone, polymer with 1,4-butanediol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.

- **Additional toxicological information:**
  - **Carcinogenic categories**
    - **IARC (International Agency for Research on Cancer)**
      - Substance is not listed.
    - **NTP (National Toxicology Program)**
      - Substance is not listed.

- **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:**
  - The polymer is not bioavailable because of its molecular size.

<table>
<thead>
<tr>
<th>31831-53-5 2-oxepanone, polymer with 1,4-butanediol</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50/96h</td>
</tr>
<tr>
<td>NOEC</td>
</tr>
</tbody>
</table>

- **Persistence and degradability**
  - **31831-53-5 2-oxepanone, polymer with 1,4-butanediol**
    - Biotic degradation (7 d) > 60 % (STURM)

- **Other information:**
  - The product is readily 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.
- **Recommended cleansing agent**: Water, if necessary with cleansing agents.

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, IMDG, IATA

- **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)**: Substance is not listed.
  
  - **Section 313 (Specific toxic chemical listings)**: Substance is not listed.

- **Carcinogenic categories**
  
  - **EPA (Environmental Protection Agency)**: Substance is not listed.

- **Inventory status**:
  
  - **Australian Inventory of Chemical Substances (AICS)**: Substance is listed.
  
  - **Canadian Domestic Substance List (DSL)**: Substance is listed.
  
  - **Canadian Non Domestic Substance List (NDSL)**: Substance is not listed.
  
  - **Chinese Chemical Inventory of Existing Chemical Substances (CIECS)**: Substance is listed.
### 34.2.2 European EINECS/ELINCS Listing
- **Exempt, polymer**
- Substance is not listed.

### 34.2.3 Japan Existing and New chemical Substance List (ENCS)
- Substance is listed.

### 34.2.4 Korea Existing Chemical Inventory (KECI)
- Substance is listed.

### 34.2.5 New Zealand Inventory of Chemicals (NZIoC)
- Substance is listed.

### 34.2.6 Philippines Inventory of Chemicals and Chemical Substances (PICCS)
- Substance is listed.

### 34.2.7 TSCA listing
- Substance is listed.

### 34.2.8 Other regulations, limitations and prohibitive regulations
- **Proposition 65**
- Substance is not listed.

### 34.2.9 Chemicals known to cause reproductive toxicity for females:
- Substance is not listed.

### 34.2.10 Chemicals known to cause reproductive toxicity for males:
- Substance is not listed.

### 34.2.11 Chemicals known to cause developmental toxicity:
- Substance is not 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.**