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

- **Product name:** Boltorn™ P1000
- **Product status:** Development product.
- **Product identifier** Boltorn™ P1000
- **Application of the substance / the preparation** Intermediate for organic synthesis
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
  Perstorp Specialty Chemicals AB
  SE-284 80 Perstorp, Sweden
  Tel. +46 435 38000
  Fax +46 435 38100
  www.perstorp.com

  Perstorp Polyols, Inc.
  600 Matzinger Road
  Toledo, Ohio 43612
  Phone: 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 characterization:** Mixtures Yes.
- **Chemical components:**

<table>
<thead>
<tr>
<th>Chemical components</th>
<th>≥ 99%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blend of dendritic polyester polyol and polyether polyol</td>
<td></td>
</tr>
</tbody>
</table>

3 Hazards identification

- **Label elements** Not applicable
- **Hazard description:** No special hazards are associated with this product.
- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    
    | Health | Fire | Reactivity |
    |--------|------|------------|
    | 1      | 0    | 0          |

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

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

    | HEALTH | FIRE | REACTIVITY |
    |--------|------|------------|
    | 0      | 1    | 0          |

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

(Contd. on page 2)
Product name: **Boltorn™ P1000**

- **Other hazards**
  Caution - mixture not yet fully tested.
  Due to the composition of the mixture and studies made on similar products we assume that the mixture 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 out mouth and then drink plenty of water or milk.
  If a large quantity has been ingested or you feel unwell, get medical advice/attention.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **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.
  Ensure adequate ventilation
- **Environmental precautions:** 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.
- **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.

### 7 Handling and storage

- **Precautions for safe handling**
  Wear personal protective equipment according to section 8 if risk of exposure.
- **Information about protection against explosions and fires:** Not applicable
- **Storage:** Store in cool, dry place in tightly closed receptacles.
- **Further information about storage conditions:** This product is hygroscopic.
Product name: Bolton™ P1000

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)
None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is 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

Material of gloves
PVC gloves
Nitrile rubber, NBR
Chloroprene rubber, CR

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).

Limitation and supervision of exposure into the environment Not required.

Risk management measures Not applicable

9 Physical and chemical properties

General Information
Appearance:
Form: Viscous
Color: Colorless
Odor: Weak, characteristic
Product name: **Boltorn™ P1000**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in condition</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&gt; 200 °C (&gt; 392 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto igniting:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion:</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing properties:</td>
<td>Not oxidizing.</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>1150 kg/m³</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water:</td>
<td>Partly miscible.</td>
</tr>
<tr>
<td>Segregation coefficient (n-octanol/water):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Dynamic at 23 °C (73 °F): 5000 mPas</td>
</tr>
<tr>
<td>Other information:</td>
<td>No further relevant information available.</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**
  - Avoid contact with humid air.
- **Incompatible materials:**
  - None known.
- **Hazardous decomposition products:**
  - No dangerous decomposition products known.

**11 Toxicological information**

- **Acute toxicity:**
  - **LD/LC50 values:**
    - Oral LD50: > 2000 mg/kg (rat)
  - **Primary irritant effect:**
    - on the skin: No irritating effect.*
    - on the eye: No irritating effect.*
    - Sensitization: No sensitizing effects known.
    - Carcinogenicity: No information available.
    - Mutagenicity: No information available.
    - Reproductive toxicity: No information available.
Product name: **Boltorn™ P1000**

**Remark:**
Caution - mixture not yet fully tested.
Due to the composition of the mixture and studies made on similar products we assume that the mixture is unclassified.

* * read-across from supporting substance (structural analogue)

### 12 Ecological information

- **Aquatic toxicity:**
  LC50/96h > 100 mg/l (fish)

- **Persistence and degradability**
  BOD5 >70 % (SS-EN-1899-1)

- **Behavior in environmental systems:**
- **Bioaccumulative potential** No information available.

**Remark:**
Caution - mixture not yet fully tested.
Due to the composition of the mixture and studies made on similar products we assume that the mixture is unclassified.

### 13 Disposal considerations

- **Waste treatment methods** The product is not classified as hazardous waste.
- **Uncleaned packagings:**
  Thoroughly emptied and clean packagings may be recycled.
  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

- **Class**

- **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.

(Contd. on page 6)
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)
      Not listed.
    - IARC (International Agency for Research on Cancer)
      Not listed.
    - NTP (National Toxicology Program)
      Not 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)
      Not listed.
    - Chinese Chemical Inventory of Existing Chemical Substances (CIECS)
      All ingredients are listed.
    - European EINECS/ELINCS Listing
      Exempt, polymer
      Not listed.
    - 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)
      Exempt
      All ingredients are listed.
  - TSCA listing
    Exempt, polymer
    Listed on the confidential inventory.
  - Other regulations, limitations and prohibitive regulations
    - State of California, Proposition 65:
    - Chemicals known to cause cancer:
      Not listed.
    - Chemicals known to cause reproductive toxicity for females:
      Not listed.
<table>
<thead>
<tr>
<th>16 Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>Department issuing MSDS:</strong> Corporate EHSQ Perstorp Holding AB</td>
</tr>
<tr>
<td><strong>Data compared to the previous version altered.</strong></td>
</tr>
</tbody>
</table>