1. Identification

Product identifier Humulin®

Other means of identification

Item Code
HI0509, HP8805, HP8803, HI0213, HI0313, HI0319, HI0810, HI0440, HI0217, HI1519, HI0819, MS8305, MS8306, HI0210, HI0740, HI1517, HI0817, HI0917, HI0940, HI0710, HI1610, HI0317, HI1640, HI1540, HI0840, VL7614, VL7613, HI0340, HP8770, HI0219, HI0640, HI0719, HI0310, HI0610, HI0240, HP8780, HI0500, HP8730, HI0410, HP8120, HI0717, HP8180, ND1044, ND1042, HP8720, ND1045, HP8130, ND1046, HP8190, ND1043, ND1041, HI0919, HI1510, HI0910, HI1617, VL7615, HI0412, HI0314, VF0229, HI0617, HI0619, HI1618, HP8750, HI0212, HI0241, HI0242, HI0280, HI0312, HI0419, HI0010, HI0040, HI0218, HI0318, HI0918, HI0380, HI0414, HI0417, HI0418, HI0342, HI0718, VF0148, HI0714, HI0442, HI0480, HI0612, HI0814, HI0818, HI1518, HP8170, HI0080, VF0147, VF0104, VF0105, VF0107, VF0108, VF0109, VF0110, VF0111, HP8790, VF0116, VF0228, VF0017, VF0149, VF0183, VF0106, HI1614, VF0103, MS8094, MS8095, HI0211, HI1514, HI0914, BO2136, BO1967, VF0179, HP8160, HI1619, HP8150, VF0150, HP8760, HI0713

Recommended use Pharmaceutical

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Eli Lilly and Company
Address Lilly Corporate Center
Indianapolis, IN 46285
United States
Telephone Phone: +1-317-276-2000
E-mail lilly_meds@lilly.com
Emergency phone number CHEMTREC: +1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Not available.
Response Not available.
Storage Not available.
Disposal Not available.
Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures
The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.
**CAS number**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc-Insulin Crystals Human</td>
<td></td>
<td>11061-68-0</td>
<td>0.1 - 0.4</td>
</tr>
</tbody>
</table>

**Composition comments**

Product contains <0.3% m-cresol and phenol.

**4. First-aid measures**

- **Inhalation**
  Remove to fresh air. If breathing stops, provide artificial respiration. Get medical attention immediately.

- **Skin contact**
  Wash off immediately with plenty of water for at least 15 minutes. Immediately take off all contaminated clothing. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

- **Eye contact**
  Immediately flush eye(s) with plenty of water. Get medical attention.

- **Ingestion**
  Consult a physician.

- **Most important symptoms/effects, acute and delayed**
  Not available.

**5. Fire-fighting measures**

- **Suitable extinguishing media**
  Use extinguishing agent suitable for type of surrounding fire.

- **Unsuitable extinguishing media**
  Not available.

- **Specific hazards arising from the chemical**
  Hazardous decomposition products formed under fire conditions.

- **Special protective equipment and precautions for firefighters**
  Wear suitable protective equipment.

- **General fire hazards**
  This product is an aqueous mixture which will not burn.

**6. Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**
  Avoid inhalation of mists or aerosols.

- **Methods and materials for containment and cleaning up**
  Prevent runoff from entering drains, sewers, or streams. Use absorbent/adsorbent material to solidify liquids. Clean up promptly by sweeping or vacuum.

- **Environmental precautions**
  Avoid release to the environment.

**7. Handling and storage**

- **Precautions for safe handling**
  Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

- **Conditions for safe storage, including any incompatibilities**
  Keep refrigerated. Do not allow material to freeze.

**8. Exposure controls/personal protection**

- **Occupational exposure limits**
  No exposure limits noted for ingredient(s).

- **Biological limit values**
  No biological exposure limits noted for the ingredient(s).

- **Exposure guidelines**
  Open handling is not recommended. Use appropriate control measures such as fume hood, ventilated enclosure, local exhaust ventilation, or down-draft booth.

**Material name:** Humulin®

5086  Version #: 02  Revision date: 02-23-2015  Issue date: 02-16-2015
Individual protection measures, such as personal protective equipment

**Eye/face protection**  
Wear goggles/face shield.

**Skin protection**

**Hand protection**  
Chemical resistant gloves.

**Other**  
Chemical-resistant gloves and impermeable body covering to minimize skin contact.

**Respiratory protection**  
Use an approved respirator. Select respirator with appropriate protection factor. Select appropriate respirator for physical characteristics of material.

**Thermal hazards**  
Not available.

**General hygiene considerations**  
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

**Appearance**

- **Physical state**: Liquid.
- **Form**: Liquid.
- **Color**: White

**Odor**: Odorless

**Odor threshold**: No data available.

**pH**: 7 - 7.8

**Melting point/freezing point**: No data available.

**Initial boiling point and boiling range**: $> 212 °F (> 100 °C)$

**Flash point**: No data available.

**Evaporation rate**: Not available.

**Flammability (solid, gas)**: Not applicable.

**Upper/lower flammability or explosive limits**

- **Flammability limit - lower (%)**: No data available.
- **Flammability limit - upper (%)**: No data available.
- **Explosive limit - lower (%)**: No data available.
- **Explosive limit - upper (%)**: No data available.

**Vapor pressure**: No data available.

**Vapor density**: No data available.

**Relative density**: No data available.

**Solubility(ies)**

- **Solubility (water)**: Slightly soluble.
- **Partition coefficient (n-octanol/water)**: No data available.

**Auto-ignition temperature**: No data available.

**Decomposition temperature**: No data available.

**Viscosity**: No data available.

**Other information**

- **Density**: No data available.
- **Explosive properties**: Not explosive
- **Oxidizing properties**: The substance or mixture is not classified as oxidizing.
- **Specific gravity**: 1.004 - 1.008
- **VOC (Weight %)**: No data available.

10. Stability and reactivity

**Reactivity**: Not water reactive.
Chemical stability  
Material is stable under normal conditions.

Possibility of hazardous reactions  
Hazardous polymerization does not occur.

Conditions to avoid  
None under normal conditions.

Incompatible materials  
Strong oxidizing agents.

Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions.

11. Toxicological information

Information on toxicological effects

Acute toxicity  
Not expected to be active orally.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin, Lispro Crystals (CAS 133107-64-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog</td>
<td>2 units/kg, Subcutaneous</td>
<td></td>
</tr>
<tr>
<td>Rat</td>
<td>0.1 units/kg, Intravenous</td>
<td></td>
</tr>
<tr>
<td>10 units/kg, Intravenous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 units/kg, Subcutaneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation  
Due to lack of data the classification is not possible.

Serious eye damage/eye irritation  
Due to lack of data the classification is not possible.

Respiratory or skin sensitization

Respiratory sensitization  
Due to lack of data the classification is not possible.

Skin sensitization  
Rhesus monkeys, extremely weak immunogenic potential. (Insulin, Lispro Crystals)

Germ cell mutagenicity  
Results in genetic toxicity assays (in vitro): Negative (Insulin, Lispro Crystals)

Carcinogenicity  
One-year subcutaneous injection studies demonstrated no evidence of carcinogenicity in rats. (Insulin, Lispro Crystals)

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity  
Mixed results reported in animal studies. Effects were attributed to hypoglycemia. Insulin itself is not considered a reproduction hazard. (Insulin, Lispro Crystals)

Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure  
No significant and/or relevant adverse effects reported.

Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure  
Animal studies have reported the following effects: Decreased blood sugar levels. (Subcutaneous) (Insulin, Lispro Crystals)

Based on available data, the classification criteria are not met.

Aspiration hazard  
No aspiration toxicity classification

Further information  
Insulin is a naturally occurring hormone. May cause decreased blood sugar levels with intravenous or subcutaneous administration. Symptoms typically associated with low blood sugar may include shakiness, sweating, fatigue, hunger, irritability, confusion, and rapid heartbeat. The following adverse effects have been noted with therapeutic use of this material: Hypersensitivity reactions.

12. Ecological information

Ecotoxicity  
Not expected to be harmful to aquatic organisms.

Persistence and degradability  
No data is available on the degradability of this product.

Bioaccumulative potential  
No data available for this product.

Mobility in soil  
Not available.

Other adverse effects  
Not available.
13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations.

14. Transport information

**DOT**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

**Transport in bulk according to** Not available.
Annex II of MARPOL 73/78
and the IBC Code

15. Regulatory information

**US federal regulations**

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.

CERCLA/SARA Hazardous Substances - Not applicable.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**
Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

- Phenol (CAS 108-95-2) Listed.

**SARA 304 Emergency release notification**

- Phenol (CAS 108-95-2) 1000 LBS

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

- Immediate Hazard - No
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

**SARA 313 (TRI reporting)**
Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

- m-Cresol (CAS 108-39-4)
- Phenol (CAS 108-95-2)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**
Not regulated.

**Safe Drinking Water Act (SDWA)**
Not regulated.

**US state regulations**

**US - California Candidate Chemicals: Listed**

- Phenol (CAS 108-95-2)

**US - California Candidate Chemicals: Listed on initial list**

- m-Cresol (CAS 108-39-4)

**US, California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**
Not listed.

**US, Massachusetts RTK - Substance List**

- m-Cresol (CAS 108-39-4)
- Phenol (CAS 108-95-2)
US. New Jersey Worker and Community Right-to-Know Act
m-Cresol (CAS 108-39-4)  
Phenol (CAS 108-95-2)  

US. Pennsylvania Worker and Community Right-to-Know Law
m-Cresol (CAS 108-39-4)  
Phenol (CAS 108-95-2)  

US. Rhode Island RTK
m-Cresol (CAS 108-39-4)  
Phenol (CAS 108-95-2)  

US. California Proposition 65
Not Listed.  

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).  

16. Other information, including date of preparation or last revision  

Issue date: 02-16-2015  
Revision date: 02-23-2015  
Version #: 02  
Lilly Lab Code:  
Health: 0  
Fire: 0  
Reactivity: 0  

List of abbreviations  
LEG: Lilly Exposure Guideline  
TWA: Time Weighted Average  
STEL: Short Term Exposure Limit  

Disclaimer  
As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. THIS MATERIAL SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.  

For additional information contact:  
Eli Lilly and Company  
Hazard Communication  
+1-317-651-9533  

Revision Information  
Physical & Chemical Properties: Multiple Properties  
Physical and chemical properties: Color