1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Polymeg 650 POLYOL
Number: 00000000000009716
Chemical characterization: Polyol
CAS-No.: 25190-06-1
Chemical Name: Polytetramethylene ether glycol
Synonyms: This SDS covers POLYMEG® 650; 1000; & 2000

Company Address
Lyondell Chemical Company
LyondellBasell Tower, Suite 700
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Company Telephone
Customer Service 888 777-0232
Product Safety 800 700-0946
product.safety@lyondellbasell.com

Emergency telephone
CHEMTREC USA 800-424-9300
LYONDELL 800-245-4532

2. HAZARDS IDENTIFICATION

Emergency Overview
This material is NOT HAZARDOUS by OSHA Hazard Communication definition.

Signal Word
CAUTION.

Hazards
May be irritating to the eyes. Mildly irritating to the skin but not a skin sensitizer. Molten polymer may cause thermal burns.

Physical state
solid

Color
White in solid form; clear, colorless in liquid form.

Odor
No odor.

Odor Threshold
Odor Threshold
No value available.

Potential health effects

Routes of exposure
Eye. Skin. Inhalation. Ingestion.

Acute effects
See component summary.

- Polytetramethylene ether glycol 25190-06-1
  Slight skin irritant. Slight eye irritant. Not expected to be an inhalation hazard.

Skin
Mildly irritating to the skin but not a skin sensitizer. Molten polymer may cause thermal burns.

Inhalation
Not expected to be an inhalation hazard.

Eyes
May cause minimal irritation. Molten or heated material can cause serious burns to the eyes.

Ingestion
Not expected to be a primary route of exposure in an industrial setting. Not expected to be an ingestion hazard.

Chronic effects
See component summary.

- Polytetramethylene ether glycol 25190-06-1
  No known chronic health effects.

Aggravated Medical Condition
Any pre-existing disorders or diseases of the eye. Skin contact may aggravate an existing dermatitis.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polytetramethylene ether glycol</td>
<td>25190-06-1</td>
<td>Monomers are EINECS Listed</td>
<td>&gt;= 99.0</td>
</tr>
</tbody>
</table>

Typical composition

4. FIRST AID MEASURES

General advice
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this MSDS.

Skin
Skin
Thoroughly wash effected area with mild soap and water. If irritation persist, seek medical attention. Wash clothing before wearing again. If molten material contacts the skin, immediately flush with large amounts of water to cool the affected tissue and polymer. Do not attempt to peel polymer from skin. Obtain emergency medical attention.

Inhalation
Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Eyes
Immediately flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower lids. If pain or irritation persists, promptly obtain medical attention.

Ingestion
If swallowed, give lukewarm water (pint/1/2 litre) and induce vomiting if victim completely conscious/alert. Obtain medical attention.

Notes to physician
Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Flammable properties

Classification
OSHA/NFPA Class IIIB combustible liquid.

Flash point
~ 193 - 207 °C (379.4 - 404.6 °F) Pensky-Martens Closed Cup

Autoignition temperature
No Data Available.

Lower explosion limit
Not Applicable.

Upper explosion limit
Not applicable.

Extinguishing Media

Suitable extinguishing media
SMALL FIRE: Use dry chemical, CO2, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.

Unsuitable extinguishing media
No additional information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters
Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

Precautions for fire-fighting
Decomposition hazard at elevated temperatures. Heat/contamination can release extremely flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use
6. ACCIDENTAL RELEASE MEASURES

Spills and leaks
Collect and contain as any solid. Avoid contact with hot product - may cause burns. Slippery walking/spread granular cover or soak up. For large molten spills, flush with copious amounts of cold water to freeze material. Sweep/shovel into suitable disposal containers. Use steam for final clean-up.

7. HANDLING AND STORAGE

Handling
Avoid contact with eyes, skin and clothing. Wash thoroughly after handling with soap and water. This material is stabilized during normal handling to prevent degradation, and the potential formation of highly flammable tetrahydrofuran vapors. Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. This material is loaded and bulk shipped at a minimum temperature of 65 °C (150 °F). Normal precautions should be maintained in handling hot liquids during the unloading of shipping and storage containers. During transfer of product, ground container and insure that all conveying equipment is properly grounded. Handle empty containers with care - residue can burn if heated.

Storage
Hygroscopic. Keep container tightly closed and properly labeled. Monitor inhibitor (BHT) content to maintain appropriate concentration. Storage temperature for this material should generally be maintained between 55-65 °C (130-150 °F). Storage under nitrogen atmosphere is recommended to minimize possible formation of highly reactive peroxides. Store away from strong oxidizers/strong acids. Store only in well ventilated, easily accessible area, away from heat/spark and open flame.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
No special ventilation is recommended under anticipated conditions of normal use beyond that needed for normal comfort control. At elevated temperatures, special ventilation may be required even if the flash point has not been exceeded.

Personal protective equipment

Inhalation
No occupational exposure limit(s) have been established for this material or its components. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Skin
Wear chemical resistant gloves such as: Rubber Wear heat protective gloves and clothing if there is a potential for contact with heated material.

Eyes
Safety glasses with side-shields
Remarks
Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse. Material spilled on hard surface can be a serious slipping/falling hazard. Spread coarse, inert granular cover such as sand, on any affected walking surface.

Occupational Exposure Limits

Consult local authorities for acceptable exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** solid White in solid form; clear, colorless in liquid form.

**Odor:** No odor.

**Odor Threshold:** No value available.

**pH:** Neutral.

**Boiling point/boiling range:** (Decomposes).

**Melting point/freezing point:** 11 - 38 °C (51.8 - 100.4 °F)

**Flash point:** ~ 193 - 207 °C (379.4 - 404.6 °F) Pensky-Martens Closed Cup

**Autoignition temperature:** No Data Available.

**Flammability:** OSHA/NFPA Class IIIB combustible liquid.

**Lower explosion limit:** Not Applicable.

**Upper explosion limit:** Not applicable.

**Explosive properties:** No Data Available.

**Oxidizing properties:** No Data Available.

**Vapor pressure:** negligible

**Evaporation rate:** Not applicable.

**Relative density:** 0.97 - 0.98 @ 40 °C (104 °F)

**Relative vapor density:** Very high.

**Viscosity:** 100 - 4,400 mPa.s @ 40 °C (104 °F)

**Water solubility:** Slight (.1 to Less Than 1 Percent).

**Partition coefficient: n-octanol/water:** No Data Available.

**Other physico-chemical properties:** Hygroscopic. Additional properties may be listed in Sections 2 and 5.
10. STABILITY AND REACTIVITY

Chemical stability
This material is considered to be stable, but will decompose at approximately 150 ºC / 300 ºF, releasing tetrahydrofuran.

Conditions to avoid
High temperatures and severe oxidizing conditions. Excess heat can release hazardous decomposition products.

Materials to avoid
Strong oxidizers such as hydrogen peroxide, nitric acid, sulphuric acid, etc. Contact with acids can release very flammable tetrahydrofuran.

Hazardous decomposition products
Decomposition can release very flammable tetrahydrofuran, and oxides of carbon.

Hazardous polymerization
Not expected to occur.

Reactions with Air and Water
Does not react with air or water.

11. TOXICOLOGICAL INFORMATION

Product information

Product Summary
No additional toxicology information is available for this material. (See Component Toxicity Information).

COMPONENT INFORMATION

- Polytetramethylene ether glycol 25190-06-1

Acute toxicity
LD50 (Oral) rat > 11,000 MG/KG

Acute effects
Inhalation
No information available.

Irritation
Skin
Contact may cause mild skin irritation.

Eyes
Slight eye irritant.

Target Organs
Eye, Skin.

Carcinogenicity
12. ECOLOGICAL INFORMATION

Ecotoxicity
No Data Available.

Environmental fate and pathways
No Data Available.

COMPONENT INFORMATION

- Polytetramethylene ether glycol 25190-06-1

Ecotoxicity
No Data Available.

Environmental fate and pathways
No Data Available.

13. DISPOSAL CONSIDERATIONS

Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Comply with federal, state, or local regulations for disposal.

14. TRANSPORT INFORMATION

Special Provisions
If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper shipping name POLYGLYCOLS, N.E.C., not regulated (POLYETRAMETHYLENE ETHER GLYCOL)

15. REGULATORY INFORMATION

Notification status
All ingredients are on the following inventories or are exempted from listing

<table>
<thead>
<tr>
<th>Country</th>
<th>Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>AICS</td>
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<tr>
<td>Canada</td>
<td>DSL</td>
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<tr>
<td>China</td>
<td>IECS</td>
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<tr>
<td>Japan</td>
<td>ENCS/ISHL</td>
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<td>Korea</td>
<td>ECL</td>
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<td>PICCS</td>
</tr>
<tr>
<td>United States of America</td>
<td>TSCA</td>
</tr>
</tbody>
</table>

Contact product.safety@lyondellbasell.com for additional global inventory information.

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

**SARA 302/304**
This product contains no known chemicals regulated under SARA 302/304.

**SARA 311/312**
Based upon available information, this material is not classified as a health and/or physical hazard according to Section 311 & 312.

**SARA 313**
This product contains no known chemicals regulated under SARA 313.

**State Reporting**
This product contains no known chemicals regulated by California's Proposition 65.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

**16. OTHER INFORMATION**

Material safety datasheet sections which have been updated:
Revised Section(s): 1 16 March 19 2012

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**Disclaimer**

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Numerical Data Presentation
The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations
This document may be available in languages other than English.

End of Material Safety Data Sheet