2,3-Epoxypropyl butyl ether
1,2-Epoxy-3-butoxy propane
1-Butoxy-2,3-epoxypropane

3.16 OSHA PEL-Ceiling: Not listed.
3.12 Odor Threshold: Not listed.
3.9 Chronic Toxicity: Currently not available.
3.6 TLV-Ceiling: Currently not available.
3.5 TLV-STEL: Not listed.
3.4 TLV-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.3 Treatment of Exposure:
3.1 Personal Protective Equipment: Chemical protective clothing, gloves, face shields, and approved respirator.
3.2 Symptoms Following Exposure: Exposure can cause mild irritation of skin, eyes, nose, and respiratory tract. Chronic exposure may cause inflammation and sensitization of the skin.
3.3 Treatment of Exposure: Remove the victim from further exposure and send for medical assistance. If necessary, remove contaminated clothing and shoes. EYES: Flush immediately with large amounts of water. lifing lids occasionally. SKIN: Wash immediately with soap and water. INGESTION: Induce vomiting. INHALATION: Administer artificial respiration if required.
3.4 TLV-TWA: 25 ppm.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Inhalation: Currently not available.
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Mutagenic in bacterial test systems, and DNA damage was induced in vitro in human white blood cells.
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.
3.11 Liquid or Solid Characteristics: Causes smoking of the skin and first-degree burns on short exposure; may cause second-degree burns on long exposure.
3.12 Odor Threshold: Currently not available.
3.13IDLH Value: 250 ppm.
3.14 OSHA PEL-TWA: 50 ppm.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed.

4.4 Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam.
4.4 Fire Extinguishing Agents Not to Be Used: Solid steam of water may cause polymerization.
4.5 Special Hazards of Combustion Products: May form explosive peroxides upon contact with air. Toxic fumes such as carbon monoxide may be produced.
4.6 Behavior in Fire: May polymerize, generating heat and causing the container to burst.
4.7 Auto-Ignition Temperature: Currently not available.
4.8 Electrical Hazards: May cause some plastics, coatings, and rubbers (insulators) to deteriorate.
4.9 Burning Rate: Currently not available.
4.10 Adiabatic Flame Temperature: Currently not available.
4.11 Stoichiometric Air to Fuel Ratio: 45.2 (calc.)
4.12 Flame Temperature: Currently not available.
4.13 Combustion Molar Ratio (Reactant to Product): 14.0 (calc.)

5.1 Reactivity with Water: No reaction.
5.2 Reactivity with Common Materials: Contact with strong oxidizers may cause fires and explosions. Contact with strong acids and bases may cause polymerization with the release of heat, which may cause the container to burst.
5.3 Stability During Transport: Stable.
5.4 Neutralizing Agents for Acids and Bases: Contact with strong bases or strong acids may cause polymerization with the release of heat.
5.5 Polymerization: Contact with strong bases or strong acids may cause polymerization with the release of heat.
5.6 Inhibitor of Polymerization: Not listed.

6.1 Aquatic Toxicity: Currently not available.
6.2 Waterfowl Toxicity: Currently not available.
6.3 Biological Oxygen Demand (BOD): Currently not available.
6.4 Food Chain Concentration Potential: Currently not available.
6.5 GESAMP Hazard Profile: Not listed.

7.1 Grades of Purity: 97-99%.
7.2 Storage Temperature: < 75°F.
7.3 Inert Atmosphere: Nitrogen blanket.
7.4 Venting: Not listed.
7.5 IMO Pollution Category: Currently not available.
7.6 Ship Type: Currently not available.
7.7 Barge Hull Type: Currently not available.

8.1 49 CFR Category: Not listed.
8.2 49 CFR Class: Not pertinent.
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No.
8.5 NPDES Hazard Classification: Not listed.
8.6 EPA Reportable Quantity: 100 pounds.
8.7 EPA Pollution Category: B
8.8 RCRA Waste Number: U041
8.9 EPA NPPO List: Not listed.

9.1 Physical State at 15°C and 1 atm: Liquid.
9.2 Molecular Weight: 130.31
9.3 Boiling Point at 1 atm: 327°F = 164°C = 437 K
9.4 Freezing Point: Currently not available.
9.5 Critical Temperature: Currently not available.
9.6 Critical Pressure: Currently not available.
9.7 Specific Gravity: 0.91
9.8 Liquid Surface Tension: Currently not available.
9.9 Liquid Interfacial Tension: Currently not available.
9.10 Vapor (Gas) Specific Gravity: 4.5
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available.
9.13 Heat of Combustion: Currently not available.
9.14 Heat of Decomposition: Currently not available.
9.15 Heat of Solution: Currently not available.
9.16 Heat of Polymerization: Currently not available.
9.17 Heat of Fusion: Currently not available.
9.18 Limiting Values: Currently not available.
9.19 Reid Vapor Pressure: Currently not available.

NOTES

JUNE 1999
## N-BUTYL GLYCIDYL ETHER (BGE)

### 9.20 SATURATED LIQUID DENSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENTLY NOT AVAILABLE</td>
<td>CURRENTLY NOT AVAILABLE</td>
</tr>
</tbody>
</table>

### 9.21 LIQUID HEAT CAPACITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
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</thead>
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<tr>
<td>CURRENTLY NOT AVAILABLE</td>
<td>CURRENTLY NOT AVAILABLE</td>
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</tbody>
</table>

### 9.22 LIQUID THERMAL CONDUCTIVITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit inch per hour-square foot-F</th>
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<tbody>
<tr>
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<td>CURRENTLY NOT AVAILABLE</td>
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### 9.23 LIQUID VISCOSITY

<table>
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<tr>
<th>Temperature (degrees F)</th>
<th>Centipoise</th>
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### 9.24 SOLUBILITY IN WATER

<table>
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<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per 100 pounds of water</th>
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### 9.25 SATURATED VAPOR PRESSURE

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per square inch</th>
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<tbody>
<tr>
<td>68</td>
<td>0.005</td>
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</table>

### 9.26 SATURATED VAPOR DENSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
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</thead>
<tbody>
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<td>0.00133</td>
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### 9.27 IDEAL GAS HEAT CAPACITY

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<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
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<tbody>
<tr>
<td>CURRENTLY NOT AVAILABLE</td>
<td>CURRENTLY NOT AVAILABLE</td>
</tr>
</tbody>
</table>

JUNE 1999