MATERIAL SAFETY DATA SHEET
ETHYLENE CHLOROHYDRIN

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Ethylene chlorohydrin
Synonyms: 2-Chloroethanol
Company Identification: Sisco Research Laboratories Pvt. Ltd.
Andheri (East), Mumbai – 400 099.
Tel : +91 22 2687 2601
Fax : +91 22 2687 8241
Website : www.srlchem.com

2 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-07-3</td>
<td>2-Chloroethanol</td>
<td>98%</td>
<td>203-459-7</td>
</tr>
</tbody>
</table>

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Very toxic by inhalation, in contact with skin and if swallowed.

Potential Health Effects

Eye:
Causes redness and pain. May cause eye irritation and possible damage.

Skin:
May cause skin irritation. May be fatal if absorbed through the skin. Substance is rapidly absorbed through the skin.

Ingestion:
May be fatal if swallowed. May cause irritation of the digestive tract. May cause nausea and vomiting. May cause headache, muscle weakness and incoordination, and confusion.

Inhalation:
May be fatal if inhaled. May cause respiratory tract irritation. May cause headache. Inhalation of vapors may cause nausea, vomiting, dizziness, and loss of consciousness.

Chronic:
Prolonged or repeated exposure may cause liver or kidney damage.

4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash mouth out with water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. Combustible liquid.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.

6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool.

7 – HANDLING AND STORAGE

Handling: Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container.

8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits
CAS# 107-07-3:
United Kingdom, WEL - STEL: 1 ppm STEL; 3.4 mg/m3 STEL
United States OSHA: 5 ppm TWA; 16 mg/m3 TWA
Belgium - STEL: 1 ppm VLE; 3.3 mg/m3 VLE
France - VLE: 1 ppm VLE; 3 mg/m3 VLE
Germany: 1 ppm TWA; 3.3 mg/m3 TWA
Germany: skin notation
Malaysia: 1 ppm Ceiling; 3.3 mg/m3 Ceiling
Spain: 1 ppm VLA-EC; 3.3 mg/m3 VLA-EC

**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

<table>
<thead>
<tr>
<th>9 - PHYSICAL AND CHEMICAL PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State:</strong> Liquid</td>
</tr>
<tr>
<td><strong>Specific Gravity/Density:</strong> 1.200-1.203</td>
</tr>
<tr>
<td><strong>Boiling Point:</strong> 127-129 deg C</td>
</tr>
<tr>
<td><strong>Molecular Formula:</strong> C₂H₅ClO</td>
</tr>
<tr>
<td><strong>Molecular Weight:</strong> 80.51</td>
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<tr>
<th>10 - STABILITY AND REACTIVITY</th>
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<tbody>
<tr>
<td><strong>Chemical Stability:</strong> Moisture sensitive.</td>
</tr>
<tr>
<td><strong>Conditions to Avoid:</strong> Incompatible materials, exposure to moist air or water.</td>
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<tr>
<td><strong>Incompatibilities with Other Materials:</strong> Exposure to moist air or water, bases, alkali metals, alkaline earth metals.</td>
</tr>
<tr>
<td><strong>Hazardous Decomposition Products:</strong> Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.</td>
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<tr>
<td><strong>Hazardous Polymerization:</strong> Has not been reported.</td>
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</table>

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<thead>
<tr>
<th>11 - TOXICOLOGICAL INFORMATION</th>
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</thead>
<tbody>
<tr>
<td><strong>RTECS#:</strong> CAS# 107-07-3: KK0875000</td>
</tr>
<tr>
<td><strong>LD50/LC50:</strong> RTECS:</td>
</tr>
<tr>
<td><strong>CAS# 107-07-3:</strong> Dermal, guinea pig: LD50 = 20 mg/kg;</td>
</tr>
<tr>
<td>Draize test, rabbit, eye: 2 mg Severe;</td>
</tr>
<tr>
<td>Draize test, rabbit, eye: 33 mg Moderate;</td>
</tr>
<tr>
<td>Draize test, rabbit, eye: 9 mg/6H Moderate;</td>
</tr>
<tr>
<td>Draize test, rabbit, skin: 200 mg/2H Mild;</td>
</tr>
<tr>
<td>Inhalation, mouse: LC50 = 385 mg/m3;</td>
</tr>
<tr>
<td>Inhalation, mouse: LC50 = 385 mg/m3;</td>
</tr>
<tr>
<td>Inhalation, rat: LC50 = 290 mg/m3;</td>
</tr>
<tr>
<td>Inhalation, rat: LC50 = 290 mg/m3;</td>
</tr>
<tr>
<td>Oral, mouse: LD50 = 81 mg/kg;</td>
</tr>
<tr>
<td>Oral, mouse: LD50 = 91 mg/kg;</td>
</tr>
</tbody>
</table>
Oral, rabbit: LD50 = 100 mg/kg;  
Oral, rat: LD50 = 71 mg/kg;  
Oral, rat: LD50 = 71 mg/kg;  
Skin, rabbit: LD50 = 67 mg/kg;  
Skin, rabbit: LD50 = 700 mg/kg;  
Skin, rat: LD50 = 293 mg/kg;  

Carcinogenicity: 2-Chloroethanol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

### 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:**  
Bacteria: EC50: 9600 mg/l; 17 H; .  
Daphnia: EC50: 350 mg/l; 48 H; .  
Fish: LC50: 19.1 mg/l; 96 H; .  

**Other:**  
Do not empty into drains. Biodegradable.  
Biodegradability: 93% (28d)Log Pow: 0.03

### 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

### 14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene</td>
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<tr>
<td>Chlorohydrin</td>
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</tr>
</tbody>
</table>

(forbidden to ship via passenger or cargo air)  
**Hazard Class:** 6.1 (3) 6.1 (3) 6.1 (3)  
**UN Number:** 1135 1135 1135  
**Packing Group:** 1 1

### 15 - REGULATORY INFORMATION

**European/International Regulations**  
**European Labeling in Accordance with EC Directives**  
**Hazard Symbols:** T+  
**Risk Phrases:** R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.  
**Safety Phrases:** S 7/9 Keep container tightly closed and in a well-ventilated place. S 28A After contact with skin, wash immediately with plenty of water. S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  

**WGK (Water Danger/Protection)** CAS# 107-07-3: 3  
**Canada** CAS# 107-07-3 is listed on Canada's DSL List  
**US Federal** CAS# 107-07-3 is listed on the TSCA Inventory.
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