MATERIAL SAFETY DATA SHEET
ISOPROPYL CHLOROACETATE

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Isopropyl chloroacetate
Synonyms: (1-Methylethyl)-2-chloroacetate
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>105-48-6</td>
<td>Isopropyl chloroacetate</td>
<td>98%</td>
<td>203-301-7</td>
</tr>
</tbody>
</table>

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Flammable. Toxic if swallowed. Irritating to eyes, respiratory system and skin.

Potential Health Effects
Eye: Causes eye irritation. Lachrymator (substance which increases the flow of tears).
Skin: Causes skin irritation.
Ingestion: Poison by ingestion.
Inhalation: Causes respiratory tract irritation. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Chronic:

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: Get medical aid immediately. 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:
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 foam, dry chemical, or carbon dioxide.

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. 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. 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: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits CAS# 105-48-6

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear a chemical apron.

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.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Boiling Point: 148 - 152 deg C

Specific Gravity/Density: 1.077-1.083

Molecular Formula: C_5H_9ClO_2

Molecular Weight: 136.50
### 10 - STABILITY AND REACTIVITY

| Chemical Stability:               | Not available |
| Conditions to Avoid:             | Incompatible materials, ignition sources. |
| Incompatibilities with Other Materials: | Strong oxidizing agents, strong bases. |
| Hazardous Decomposition Products: | Hydrogen chloride, carbon monoxide, carbon dioxide. |
| Hazardous Polymerization:        | Has not been reported. |

### 11 - TOXICOLOGICAL INFORMATION

| RTECS#: | CAS# 105-48-6: None listed |
| LD50/LC50: | RTECS: Not available. |
| Carcinogenicity: | Isopropyl chloroacetate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. |
| Other: | The toxicological properties have not been fully investigated. |

### 12 - ECOLOGICAL INFORMATION

Not available

### 13 - DISPOSAL CONSIDERATIONS

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

### 14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
</tr>
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<tbody>
<tr>
<td>Isopropyl Chloroacetate</td>
<td>3</td>
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</table>

### 15 - REGULATORY INFORMATION

European/International Regulations

**European Labeling in Accordance with EC Directives**

| Hazard Symbols: | T |
| Risk Phrases: | R 10 Flammable. R 25 Toxic if swallowed. R 36/37/38 Irritating to eyes, respiratory system and skin. |
| Safety Phrases: | S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 37/39 Wear suitable gloves and eye/face protection. 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# 105-48-6: Not available

Canada CAS# 105-48-6 is listed on Canada's NDSL List
US Federal TSCA CAS# 105-48-6 is listed on the TSCA Inventory.

16 - ADDITIONAL INFORMATION

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