MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT & MANUFACTURER’S DETAILS

PRODUCT NAME: 1-(2-Chloroethyl)Piperidine Hydrochloride

MANUFACTURER

FACTORY & REGISTERED OFFICE:
Jubilant Organosys Limited Bhartiagram, Gajraula
District: Jyotiba Phuley Nagar
Uttar Pradesh-244223, India
PHONE NO: +91-5924-252353 upto 60
Contact Department-Safety: Extension 298
FAX NO: 91-5924-252352
EMERGENCY PHONE: +91-5924-268141

HEAD OFFICE:
Jubilant Organosys Limited
Plot 1-A, Sector 16-A, Institutional Area, Noida,
Uttar Pradesh-201301 India.
PHONE NO: +91-120-2516601
Contact department: EHS
FAX NO: +91-120-2516629
Email: support@jubl.com

2. CHEMICAL IDENTIFICATION

• CHEMICAL NAME : 1-(2-Chloroethyl)Piperidine Hydrochloride
• SYNONYMS : -
• CHEMICAL CLASSIFICATION : Aromatic Heterocyclic Compound
• CHEMICAL FORMULA : C₇H₁₅NCl₂
• C.A.S. NO. : 2008-75-5

3. HAZARD IDENTIFICATION & HEALTH HAZARD

• Fatal if swallowed
• Causes burns
• Combustible
• Corrosive
• Route of entry: inhalation, skin, ingestion
• Hygroscopic

4. FIRST AID MEASURES

Eye:
Immediately flush eyes with plenty of water for at least 15 minutes by separating eyelids with fingers. Get medical help.

Skin:
Remove contaminated clothings and shoes. Flush skin with copious amount of water for atleast fifteen minutes. Wash contaminated clothing before reuse.
**Inhalation:**
Remove the affected person(s) to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Ingestion:**
If swallowed, make victim drink plenty of water, avoid vomiting. Immediately call a physician. Do not try to neutralise.

### 5. FIRE FIGHTING MEASURES

**Extinguishing media:**
Water, chemical powder, carbon dioxide, and foam. Do not allow the water to enter surface or ground water.

**Special fire fighting procedure:**
Wear protective clothing, wear self-contained breathing apparatus.

**Unusual fire and explosion hazard:**
Emits toxic fumes under fire conditions.

### 6. ACCIDENTAL RELEASE MEASURES

- Evacuate the area
- Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves
- Avoid substance contact
- Avoid generation of dust
- Do not inhale dust
- Ensure fresh supply of air in enclosed rooms
- Sweep up and forward for disposal in closed containers
- Do not allow to enter sewerage system

### 7. HANDLING AND STORAGE

- Store in cool dry and ventilated place
- Keep containers tightly closed
- Wear suitable protective clothing, gloves and eye/face protection
- Do not breathe dust, vapour, mist or gas
- Accessible only for authorised persons

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Avoid inhalation of dust
- Avoid contact with eyes, skin and clothing
- Avoid prolonged/repeated exposure
- Wear appropriate NIOSH/MSHA approved respirator (when dust is generated), chemical resistant gloves/safety goggles and protective clothing
- In case of contact immediately use safety showers and eye bath for washing and remove contaminated clothing
- Do not eat or drink at workplace
- Work under hood
9. PHYSICOCHEMICAL PROPERTIES & FIRE/EXPLOSION HAZARD DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>PHYSICAL STATE</td>
<td>Crystalline solid</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>White to beige</td>
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<tr>
<td>ODOUR</td>
<td>Odour of pungent acid</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>Data not relevant</td>
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<tr>
<td>MELTING POINT</td>
<td>228-234°C</td>
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<tr>
<td>FLASH POINT</td>
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<tr>
<td>VAPOUR PRESSURE</td>
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<tr>
<td>BULK DENSITY</td>
<td>0.55-0.6 g/cm³</td>
</tr>
<tr>
<td>VAPOR DENSITY (AIR=1)</td>
<td>Data not relevant</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Soluble</td>
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<tr>
<td>pH</td>
<td>4-5 (2% Aqueous solution)</td>
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<tr>
<td>FLAMMABILITY</td>
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</tr>
<tr>
<td>UEL</td>
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<tr>
<td>LEL</td>
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<tr>
<td>AUTO IGNITION TEMPERATURE</td>
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<td>EXPLOSIVE SENSITIVITY TO IMPACTS</td>
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<td>STATIC ELECTRICITY</td>
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<tr>
<td>FLAMMABLE MATERIAL</td>
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<td>PYROPHORIC MATERIAL</td>
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<tr>
<td>OXIDISER</td>
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<td>ORGANIC PEROXIDE</td>
<td>No</td>
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<tr>
<td>CORROSIVE MATERIAL</td>
<td>Yes</td>
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</table>

10. STABILITY AND REACTIVITY

- Stable under normal temperature & pressures
- Incompatible with strong oxidising agents, bases
- Conditions to avoid - incompatible materials, dust generation
- Hazardous combustion or decomposition products:
  thermal decomposition may produce carbon monoxide and oxides of nitrogen, hydrochloric acid

11. TOXICOLOGICAL INFORMATION

- **Acute effects:**
  Toxic if swallowed, burns in mouth, oesophagus and gastrointestinal tract, risk of perforation in stomach
  Burns in skin or eye contact
  After inhalation - burns of mucous membranes, coughing dyspnoea
  Highly toxic material, should be handled with the care usual for dealing with such chemicals

- **Target organs:**
  Digestive tract, respiratory tract

- **Toxicity:**
  ORL RAT LD50 : 17 mg/kg
11. TOXICOLOGICAL INFORMATION

RTECS #: TM6482500

12. ECOLOGICAL INFORMATION

- **Ecotoxicity**: No appreciable bio-accumulation potential is to be expected. Not readily biodegradable
- Do not allow to enter waters, waste water or soil

13. DISPOSAL CONSIDERATION

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Observe all federal, state and local environmental regulations

14. TRANSPORT INFORMATION

<table>
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<tr>
<th>PROPER SHIPPING NAME</th>
<th>Toxic solid, corrosive, organic, n.o.s</th>
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<td>(1-(2-Chloroethyl)Piperidine Hydrochloride)</td>
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<td>UN HAZARD CLASS</td>
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<td>UN PACKING GROUP</td>
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15. REGULATORY INFORMATION

**European information**
- EC NO. : 217-920-5
- R-28 (Very toxic if swallowed)
- R-34 (Causes burns)
- S-26 (in case of contact with eyes, rinse immediately with plenty of water and seek medical advice)
- S-28 (After contact with skin, wash immediately with plenty of soap and water)
- S-36/37/39 (Wear suitable protective clothing, gloves and eye/face protection)
- S-45 (in case of accident, if you feel unwell, seek medical advice immediately)

**US information**
- Is not listed in EPA TSCA chemical inventory.
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<th>16. OTHER INFORMATION</th>
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<td>Information contained in this MSDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This MSDS shall be used as a guide only. JUBILANT ORGANOSYS LIMITED makes no warranties expressed or implied of the adequacy of this document for any particular purpose.</td>
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<td>Date: 02-Nov-04</td>
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