



Humco Holding Group, Inc.
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24-Hour Emergency Number (CHEMTREC)
 USA- 800-424-9300

All non-emergency calls should be directed to
 Customer Service at 800-662-3435

NAME: KETAMINE HYDROCHLORIDE, USP

SDS NO. 8070

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ketamine Hydrochloride, USP

Synonyms: 2-(2-chlorophenyl)-2-(methylamino)-cyclohexanone, monohydrochloride

Recommended Use: Active Pharmaceutical Ingredient

Manufacturer by: Humco Holding Group, Inc.

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2. HAZARD IDENTIFICATION

| | |
|---------------------------------|--|
| Pictogram: | |
| Classification: | Harmful by inhalation and if swallowed. |
| Signal Word: | Warning |
| Hazard Statements: | Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. |
| Precautionary Statements | Avoid breathing dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection. |

3. COMPOSITION / INGREDIENTS

| CHEMICAL NAME | CAS# |
|-----------------------------|-----------|
| KETAMINE HYDROCHLORIDE, USP | 1867-66-9 |

4. FIRST-AID MEASURES

General information: Immediately remove any clothing soiled by the product. Take affected persons out into the fresh air.

After inhalation: Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.
Seek medical treatment.

After swallowing: Seek medical treatment.
Rinse out mouth with water and drink half a liter of water, if affected person is fully conscious.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.

Water spray

Carbon Dioxide

Fire-extinguishing powder

Alcohol resistant foam

Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

Hydrogen chloride (HCl)

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up: Pick up mechanically. Dispose of the material collected according to regulations.

7. HANDLING AND STORAGE

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container to an approved waste disposal plant.

Prevent formation of dust. Prevent formation of aerosols.

Information about fire-and explosion protection:

Keep ignition sources away- Do not smoke. Protect against electrostatic charges.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

National occupational exposure limits United States

| Components | OSHA | NIOSH | ACGIH | AIHA WHEEL |
|--------------|------|-------|-------|------------|
| Ketamine HCl | N/L | N/L | N/L | N/L |

EXPOSURE GUIDELINES: Consult local authorities for provincial or state exposure limits

PERSONAL PROTECTIVE EQUIPMENT: Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to minimize contact with skin. Respirators: Follow WHMIS or 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.

SPECIFIC ENGINEERING CONTROLS: Adequate mechanical ventilation. Fume hood, eye wash station, and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------------|----------------------------|--|------------------------|
| Appearance: | White Crystalline | Upper/Lower Flammability: | Not determined |
| Odor: | odorless | Vapor Pressure | Not applicable |
| Odor Threshold: | No data available | Vapor Density: | No data available |
| pH: | 3.5-4.1 | Relative Density: | No data available |
| Melting point /Freezing Point: | 258-261 °C (496-502 °F) | Solubilities: | Water at 20 °C (68 °F) |
| Boiling point/range: | Undetermined | Partition coefficient: n-octanol/water: | No data available |
| Flash point | Not applicable | Auto-ignition temperature | No data available |
| Evaporation rate | No data available | Decomposition Temperature: | No data available |
| Flammability: | Product is not flammable | Viscosity | Not applicable |

10. STABILITY AND RACTIVITY

Possibility of hazardous reactions

Reacts with strong oxidizing agents.

Reacts with acids.

Reacts with alkali (lyes).

Reacts with water and strong reducing agents.

11. TOXICOLOGICAL INFORMATION

| | |
|--|---|
| Acute Toxicity- LD50 Oral | LD/LC50 values that are relevant for classification: ORAL LD50 617 mg/kg (mouse) 447 mg/kg (rat) LD50 intraperitoneal 224 mg/kg (rat) LD50 intravenous 58.8 mg/kg (rat) |
| Acute Toxicity-Inhalation | No data available |
| Acute Toxicity- Dermal | No data available |
| Acute Toxicity- Eye | No data available |
| Skin Corrosion/Irritation | No data available |
| Serious Eye Damage/Irritation | No data available |
| Respiratory or Skin Sensitization | No sensitizing effects known |
| Germ Cell Mutagenicity | No data available |
| Carcinogenicity IARC | Substance is not listed |
| Carcinogenicity ACGIH | No data available |
| Carcinogenicity NTP | Substance is not listed |
| Carcinogenicity OSHA | Substance is not listed |
| Reproductive Toxicity | No data available |
| Specific Target Organ Toxicity- Single Exposure | No data available |
| Specific Target Organ Toxicity- Repeated Exposure | No data available |
| Aspiration Hazard | No data available |

12. ECOLOGICAL INFORMATION

| | |
|--------------------------------------|---|
| Toxicity | Aquatic toxicity EC50/48h 265 mg/l (Daphnia) |
| Persistence and degradability | No further relevant information available. The product is not readily biodegradable. |
| Bioaccumulation potential | No further relevant information available. General notes: Water danger class 3 (self-assessment): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground. |
| Mobility in soil | No further relevant information available |
| Other Adverse Effects | No further relevant information available |

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with federal, state and local laws and regulations. Avoid release into environment.

14. TRANSPORT INFORMATION

| | |
|------------------------------------|---------------------|
| DOT Hazard Classification: | Not applicable |
| UN number: | Not dangerous goods |
| UN proper shipping name: | Not applicable |
| Transport hazard class(es): | Not applicable |
| Packing group: | Not applicable |
| Environmental hazards: | Not applicable |

15. REGULATORY INFORMATION

Not determined

16. OTHER INFORMATION

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