



# Material Safety Data Sheet

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## KETAMINE HYDROCHLORIDE

Catalog Number: 1356009

Package Size: 250 mg

Revision Date:

March 15, 2001

EMERGENCY OVERVIEW - Toxic.

### SECTION 1 - IDENTIFICATION

**Common Name:** Ketamine Hydrochloride

**Formula:** C<sub>13</sub>H<sub>16</sub>ClNO . HCl

**Synonym:** n/f

**Chemical Name:** Cyclohexanone, 2-(2-chlorophenyl)-2-(methylamino)-, hydrochloride

**CAS Number:** 1867-66-9

**RTECS Number:** GW1400000

**Chemical Family:** A Benzene derivative

**Therapeutic Category:** Anesthetic

### SECTION 2 - INGREDIENT INFORMATION

Principle Components

Percent

Exposure Limits

Ketamine Hydrochloride

Pure Material

n/f

### SECTION 3 - HEALTH HAZARD INFORMATION

**Usual Adult Dose:** The usual anesthetic dose of ketamine hydrochloride is 2 mg (base) per kilogram of body weight administered intravenously.

**Adverse Effects:** Adverse effects may include changes in blood pressure, heart rate, or breathing; muscle movements resembling seizures; tremors; vomiting; nausea; double vision; wandering or back and forth eye movement; skin rash; loss of appetite; and dizziness. Following the use of this material for anesthesia, many people experience mood or mental changes, vivid dreams or hallucinations, and delirium; sometimes these effects may recur days or weeks later. Possible allergic reaction to material if inhaled, ingested or in contact with skin.

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**Overdose Effects:** Signs of overdose may include trouble breathing, high blood pressure, increased salivation, seizures, increased intracranial pressure, respiratory arrest, and cardiac arrest.

**Acute:** Possible eye, skin, gastrointestinal and/or respiratory tract irritation.

**Chronic:** Possible hypersensitization and tolerance.

**Inhalation:** May cause irritation. Remove to fresh air.

**Eye:** May cause irritation. Flush with copious quantities of water.

**Skin:** May cause irritation. Flush with copious quantities of water.

**Ingestion:** May cause irritation. Flush out mouth with water.

**Medical Conditions Aggravated by Exposure:** Hypersensitivity to material, heart disease, hypertension, recent heart attack, history of stroke, cerebral trauma, eye injury (open globe), increased CSF or intraocular pressure, psychiatric disorders and thyrotoxic states.

**Cross Sensitivity:** n/f

**Pregnancy Comments:** Studies in animals have not shown that ketamine causes birth defects; however, one study with rats did show some adverse effects on the fetus. When used in low doses for obstetrical anesthesia in humans, it has not been shown to cause adverse effects, but high doses are likely to cause fetal depression.

**Pregnancy Category:** n/f

## SECTION 4 - FIRST AID MEASURES

**General:** Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention. If person is not breathing give artificial respiration. If breathing is difficult give oxygen. Obtain medical attention.

**Overdose Treatment:** Overdose treatment is symptomatic and supportive and may include the following:

1. If ketamine was ingested, attempt gastric decontamination.
2. Control seizures with a benzodiazepine; if seizures persist or recur administer phenobarbital followed by phenytoin or fosphenytoin if necessary.
3. Monitor for respiratory depression, hypotension, dysrhythmias, and need for endotracheal intubation.
4. Treat increased tracheobronchial secretions with an anticholinergic agent such as atropine or scopolamine.
5. For emergence reactions minimize sensory stimuli. Provide non-threatening environment and assurance. Benzodiazepines may reduce psychotomimetic effects.
6. Diphenhydramine has been used to manage acute dystonic reactions. [USP DI 2001; Poisindex 2001]

## SECTION 5 - TOXICOLOGICAL INFORMATION

**Oral Rat:** LD50: 447 mg/kg

**Oral Mouse:** LD50: 617 mg/kg

**Irritancy Data:** n/f

**Target Organ(s):** Central nervous system, cardiovascular system

**Listed as a Carcinogen?** NTP: No IARC: No OSHA: No

**Other:** No

## SECTION 6 - FIREFIGHTING MEASURES

**Flash Point:** n/f

**Upper Flammable Limit:** n/f

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**Auto-Ignition Temperature:** n/f      **Lower Flammable Limit:** n/f  
**Extinguisher Media:** Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials.  
**Fire and Explosion Hazards:** This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity.  
**Firefighting Procedures:** As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

## SECTION 7 - PHYSICAL HAZARDS

**Conditions to Avoid:** n/f  
**Incompatibilities:** n/f  
**Decomposition Products:** When heated to decomposition material emits very toxic fumes of Cl- and NOx. Emits toxic fumes under fire conditions.  
**Stable?** Yes      **Hazardous Polymerization?** No

## SECTION 8 - HANDLING / SPILL / DISPOSAL MEASURES

**Handling:** As a general rule, when handling USP Reference Standards avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Wash thoroughly after handling.  
**Storage:** Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.  
**Spill Response:** Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using a high efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labelled container for disposal. Wash spill site.  
**Disposal:** Dispose of waste in accordance with all applicable Federal, State and local laws. Additionally, because this is a controlled substance, notify local DEA office for appropriate disposal procedures.

## SECTION 9 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Respiratory Protection:** Use a NIOSH approved respirator, if it is determined to be necessary by an industrial hygiene survey involving air monitoring. In the event that a respirator is not required, an approved dust mask should be used.  
**Ventilation:** Recommended.  
**Gloves:** Rubber  
**Eye Protection:** Safety Goggles  
**Protective Clothing:** Protect exposed skin.

## SECTION 10 - PHYSICAL AND CHEMICAL PROPERTIES

**NOTE: The data reported below is general information, and is not specific to the USP Reference Standard Lot provided!**

**Appearance and Odor:** White crystalline powder; slight characteristic odor.  
**Melting Point:** 258 - 263° C (decomposes)  
**Solubility in Water:** Freely soluble      **Vapor Density:** n/f  
**Boiling Point:** n/f      **Evaporation Rate:** n/f  
**Specific Gravity:** n/f      **Reactivity in Water:** n/f

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**Vapor Pressure:** n/f

**% Volatile by Volume:** n/f