



Material Safety Data Sheet

12601 Twinbrook Parkway,
Rockville, MD 20852 USA

Phone Calls: 301-816-8129
8 a.m. to 5 p.m. EST Mon. - Fri.

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PROPRANOLOL HYDROCHLORIDE

Catalog Number: 1576005

Revision Date:

October 1, 2007

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Common Name: Propranolol Hydrochloride

Manufacturer: U. S. Pharmacopeia

Responsible Party: Reference Standards Technical Services

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Product Use: USP Reference Standards and Authentic Substances are used for chemical tests and assays in analytical, clinical, pharmaceutical, and research laboratories.

SECTION 2 - HAZARD INFORMATION

EMERGENCY OVERVIEW - Toxic.

Adverse Effects: Adverse effects may include decreased sexual ability, drowsiness or weakness, slow or uneven heartbeat, light-headedness, fainting, trouble sleeping, dizziness, shortness of breath, swelling of feet or lower legs, mental depression, cold hands and feet, anxiety or nervousness, constipation or diarrhea, nausea, vomiting, and stomach pain. Possible allergic reaction to material if inhaled, ingested or in contact with skin.

Overdose Effects: Symptoms of overdose include slow or uneven heartbeat, severe dizziness or fainting, bluish colored palms or fingernails, difficulty breathing, seizures, coma, and shock.

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

Chronic: Possible hypersensitization, disorientation, hallucinations, and hearing or vision disturbances.

Medical Conditions Aggravated by Exposure: Hypersensitivity to material, heart problems, hypotension, emphysema or chronic bronchitis, asthma, diabetes mellitus, hyperthyroidism, impaired kidney or liver function, myasthenia gravis, and mental depression.

Cross Sensitivity: n/f

Target Organs: Cardiovascular system.

For additional information on toxicity, see Section 11.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Propranolol Hydrochloride

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Formula: C₁₆H₂₁NO₂ · HCl

Synonym: n/f

Chemical Name: 2-Propanol, 1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)-, hydrochloride (+/-)

CAS: 318-98-9; 3506-09-0

RTECS Number: UB7525000

Chemical Family: Propylamine derivative

Therapeutic Category: Cardiac depressant (anti-arrhythmic); Anti-adrenergic (beta-receptor)

Composition: Pure Material

SECTION 4 - FIRST AID MEASURES

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 and bitter taste. Flush out mouth with water. This material is almost completely absorbed from the gastrointestinal tract.

General First Aid Procedures: 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.

Note to Physicians

Overdose Treatment: Treatment of overdose should be symptomatic and supportive and may include the following:

1. Administer activated charcoal as a slurry.
2. Perform gastric lavage. Protect airway and control seizures first.
3. For seizures, administer intravenous diazepam or lorazepam. If seizures recur, consider phenobarbital.
4. Administer atropine for severe bradycardia. Cardiac pacing may be needed.
5. Administer glucagon intravenously to treat bradycardia and hypotension. Isoproterenol, dopamine, or phosphodiesterase inhibitors may also be helpful. Epinephrine can cause uncontrolled hypertension.
6. For hypoglycemia, administer dextrose and/or glucagon intravenously.
7. Administer a beta-2 agonist such as isoproterenol and/or aminophylline for bronchospasm.
8. Monitor electrocardiogram, pulse, blood pressure, neurobehavioral status, and intake and output status.
9. Propranolol is not significantly dialyzable. [Poisindex 2007; PDR 2007]

SECTION 5 - FIREFIGHTING MEASURES

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 6 - ACCIDENTAL RELEASE MEASURES

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.

SECTION 7 - HANDLING AND STORAGE

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.

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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.

SECTION 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering Controls: Engineering controls such as exhaust ventilation are recommended.

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.

Gloves: Chemically compatible

Eye Protection: Safety goggles or glasses

Protective Clothing: Protect exposed skin.

Exposure Limits: n/f

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Properties as indicated on the MSDS are general and not necessarily specific to the USP Reference Standard Lot provided.

Appearance and Odor: White to off-white crystalline powder; odorless.

Odor Threshold: n/f

pH: n/f

Melting Range: 162 - 166° C

Boiling Point: n/f

Flash Point: n/f

Autoignition Temperature: n/f

Evaporation Rate: n/f

Upper Flammability Limit: n/f

Lower Flammability Limit: n/f

Vapor Pressure: n/f

Vapor Density: n/f

Specific Gravity: n/f

Solubility in Water: Soluble

Fat Solubility: n/f

Other Solubility: Soluble in alcohol; slightly soluble in chloroform; practically insoluble in ether.

Partition Coefficient: n-octanol/water: 3.65

Percent Volatile: n/f

Reactivity in Water: n/f

Explosive Properties: n/f

Oxidizing Properties: n/f

Formula: C₁₆H₂₁NO₂ · HCl

Molecular Weight: 295.80

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SECTION 10 - STABILITY AND REACTIVITY

Conditions to Avoid: Avoid exposure to light.

Incompatibilities: Alkaline solutions, strong oxidizing agents, strong acids

Decomposition Products: When heated to decomposition material emits very toxic fumes of NO_x and HCl. Emits toxic fumes under fire conditions.

Stable? Yes **Hazardous Polymerization?** No

SECTION 11 - TOXICOLOGICAL PROPERTIES

Oral Rat: LD50: 466 mg/kg

Oral Mouse: LD50: 320 mg/kg

Other Toxicity Data: Oral Rabbit LD50: 600 mg/kg

Irritancy Data: n/f

Corrosivity: n/f

Sensitization Data: n/f

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

Other Carcinogenicity Data: In mice and rats, oral doses of 150 mg/kg/day for 18 months did not increase the incidence of tumors.

Mutagenicity Data: Propranolol hydrochloride tested positive in the chromosomal aberration and micronucleus assays in mammalian polychromatic erythrocytes. There was equivocal evidence of a genotoxic effect in one strain of *Salmonella typhimurium*.

Reproductive and Developmental Effects: There have been reports of adverse effects on fetuses and newborns of mothers who used beta-blockers during pregnancy. These effects included slow heartbeat, low blood pressure, low blood sugar, and respiratory depression. In rats, 50 mg/kg doses administered orally caused no adverse effects on fertility; doses of 150 mg/kg/day reduced litter size, increased resorptions, and increased neonatal deaths. In rabbits, doses of 150 mg/kg/day caused no adverse reproductive effects.

SECTION 12 - ECOLOGICAL INFORMATION

Ecological Information: Toxic to aquatic organisms.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: Dispose of waste in accordance with all applicable Federal, State and local laws.

SECTION 14 - TRANSPORT INFORMATION

Shipping Name: n/f

Class: n/f

UN Number: n/f

Packing Group: n/f

Additional Transport Information: n/f

SECTION 15 - REGULATORY INFORMATION

U.S. Regulatory Information: n/f

International Regulatory Information: EINECS # 206-268-7

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Hazard code: Xn
Risk phrase: R22

SECTION 16 - OTHER INFORMATION

Revision: 01-Oct-07

Previous Revision Date: 01-Jul-03