



Material Safety Data Sheet

Date Prepared: 09/12/2006
Prepared By: M. MacDougall
Technical Assistance: 607-562-2700

X-GEN Pharmaceuticals
PO Box 445
Big Flats, NY 14814

LIOTHYRONINE SODIUM

NDC# 39822-0151-1

IDENTIFICATION

Common Name: Liothyronine Sodium

Chemical Name: L-Tyrosine,O-(4-hydroxy-3-iodophenyl)-3,5-diiodo-,monosodium salt

Synonym: T₃ Liothyronine Sodium; L-triiodothyronine

Formula: C₅H₁₁I₃NNaO₄

CAS Number: 55-06-1

Chemical Family: Thyroxine derivative

Therapeutic Category: Thyroid Hormone

INGREDIENT INFORMATION

Principle Components

Liothyronine Sodium

Percent

0.001

Exposure Limits

n/f

HEALTH HAZARD INFORMATION

Adverse Effects: Adverse effects may include clumsiness, coldness, constipation, dry and puffy skin, sleepiness, weight gain, weakness, muscle aches, and listlessness. Possible allergic reaction to material if inhaled, ingested, or in contact with skin.

Overdose Effects: Excessive doses of Liothyronine may cause hyperthyroidism. Symptoms may include changes in appetite, changes in menstrual periods, sensitivity to heat, fast or irregular heartbeat, headache, dizziness, hand tremors, nervousness, irritability, leg cramps, shortness of breath, chest pain, sweating, fever, vomiting, diarrhea, increased bowel motility, trouble sleeping, and weight loss. Effects may be delayed 4 to 12 hours. A massive overdose may cause "thyroid storm" effects including confusion, fever, jaundice, mood swings, muscle wasting, psychosis, extreme restlessness, marked weakness, convulsions, cardiac arrhythmias, heart failure, coma, and death.

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

Chronic: Possible hyper-sensitization and hyperthyroidism.

Inhalation: May cause irritation allergic reactions. Avoid inhalation. Remove to fresh air.

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

Skin: May cause irritation, allergic reactions. Flush with copious quantities of water.

Target Organs: heart, central nervous system

n/f = not found

HEALTH HAZARD INFORMATION CONTINUED

Ingestion: May cause gastrointestinal irritation, sensitivity to heat, fever, vomiting, diarrhea, dizziness, weight loss, chest pain, irregular heartbeat, headache, sleep disturbances, tremors, menstrual disorders, heart disorders.

Medical Conditions Aggravated by Exposure: Hypersensitivity to material, adrenocortical insufficiency, cardiovascular disease, thyroid problems, and pituitary insufficiency.

Cross Sensitivity: n/f

Pregnancy Comments: Clinical experience in humans has shown that appropriate therapeutic use of thyroid hormones does not cause adverse effects on the fetus.

FIRST AID MEASURES

Inhalation: May cause irritation. Avoid inhalation. Remove to fresh air.

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

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

Ingestion: May cause irritation. Avoid ingestion. Flush out mouth with water. This material is absorbed from the gastrointestinal tract.

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.

Note to Physicians

Overdose Treatment: Overdose treatment should be symptomatic and supportive and may include the following;

1. Empty the stomach to reduce gastrointestinal absorption. Activated charcoal may be useful for up to four hours following ingestion.
2. Administer cardiac glycosides if congestive heart failure develops.
3. Use appropriate measures to control fever, hypoglycemia, or fluid loss. Administer oxygen if necessary.
4. Give beta-adrenergic blocking agents such as propranolol for treatment of increased sympathetic activity.
5. Administer hydrocortisone intravenously to partially inhibit conversion of T4 to T3.

TOXICOLOGICAL INFORMATION

Oral Rat: LD50: n/f

Oral Mouse: LD50: n/f

Irritancy Data: n/f

Target Organs: heart, central nervous system

Listed as a Carcinogen? NTP: No

IARC: No

OSHA: No

n/f = not found

2

FIREFIGHTING MEASURES**Flash Point:** n/f**Upper Flammable Limit:** n/f**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:** Product has slight fire hazard**Firefighting Procedures:** As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.**PHYSICAL HAZARDS****Conditions to Avoid:** Avoid exposure to light. Avoid Exposure to heat, flames, sparks, and other sources of ignition. Avoid Contact with incompatible materials.**Incompatibilities:** Oxidizing agents.**Decomposition Products:** When heated to decomposition, material emits oxides of nitrogen, oxides of carbon, iodine, chlorine.**Stable?** Yes**Hazardous Polymerization?** No**HANDLING / SPILL / DISPOSAL MEASURES****Handling:** As a general rule, when handling Liothyronine Sodium, avoid all contact and inhalation of mists, and/or vapors associated with the material. Wash thoroughly after handling.**Storage:** Store in tight, light-resistant container as defined in the USP. This material should be handled and stored per label instructions to ensure product integrity. Store between 2° and 8° C (36° and 46° F).**Spill Response:** Wear approved respiratory protection, chemically compatible gloves and protective clothing. Absorb small spills with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.**Disposal:** Dispose of waste in accordance with all applicable Federal, State and local laws.**EXPOSURE CONTROLS / PERSONAL PROTECTION****Respiratory Protection:** When working with small quantities in a well-ventilated area, respiratory protection may not be required. The use of an approved dust mask is recommended.**Respirator:** Under conditions characterized as frequent or heavy exposure, use of a NIOSH-approved chemical cartridge respirator with organic vapor cartridges may be necessary. For situations involving unknown concentrations or dangerous to life or health, any air-supplied respirator with full face-piece should be utilized.

EXPOSURE CONTROLS / PERSONAL PROTECTION CONTINUED

Ventilation: Provide local exhaust ventilation system. Ensure compliance with any applicable exposure limits.

Gloves: Chemically compatible gloves.

Eye Protection: Safety gasses or safety goggles.

Protective Clothing: Protect exposed skin.

Exposure Limits: n/f

PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid

Color: colorless

Melting Point: n/f

Vapor Density: n/f

Boiling Point: n/f

Reactivity in Water: n/f

% Volatile by Volume: n/fb

Appearance: clear

Odor: n/f

Solubility in Water: soluble

Evaporation Rate: n/f

Specific Gravity: n/f

Vapor Pressure: n/f