Section 1: Identification

Common Name/Trade Name	Liothyronine Sodium	
Supplier Information	Letco Medical, LLC 1316 Commerce Drive NW Decatur, AL 35601 1 (800) 239-5288 +1 (734) 843-4693	**IN CASE OF EMERGENCY:** Chemtrec 1 (800) 424-9300 **(24 hours)** NSW Poisons Information Centre: 131 126 (24 hours)
Distributor Name	Bella Corp Trading Pty Ltd 6/34 Dominions Road, Ashmore QLD 4214, Australia Telephone: 07 5597 4169 Email: bellacorp@bellacorp.com.au	
Product Synonym(s)	L-Tyrosine, O-(4-hydroxy -3-iodophenyl)-3, 5-diiodo-, monosodium salt. Monosodium L-3-[4-(4-hydroxy-3-iodophenoxy)-3, 5-diiodophenyl] alanine	
Relevant Use(s) of Product	Manufacture or Compounding of Substances	

Section 2: Hazards Identification

Classification of Substance or Mixture	Acute Toxicity (Category 3), Acute Toxicity (Category 4)	
Signal Word	Danger	
Hazard Statement(s)	H301 H311 H332	Toxic if swallowed Toxic in contact with skin Harmful if inhaled
Pictogram(s)		
Precautionary Statement(s)	P261 P280 P301+P310 P405 P501	Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED Immediately call a POISON CENTER or doctor/physician. Store locked up. Dispose of contents/container to an approved waste disposal plant.
Hazards Not Otherwise Classified	N/A	
Ingredient(s) with Unknown Toxicity	N/A	

Section 3: Composition/Information on Ingredients

Chemical Name	L-Tyrosine, O-(4-hydroxy -3-iodophenyl)-3, 5-diiodo-, monosodium salt. ïƒ˜ Monosodium L-3-[4-(4-hydroxy-3-iodophenoxy)-3, 5-diiodophenyl] alanine
Common Name	Liothyronine Sodium
CAS Number	55-06-1
Impurities and/or Stabilizing Additives	N/A

Section 4: First Aid Measures

General Advice	Not available.
If Inhaled	Slight inhalation: allow the victim to rest in a well-ventilated area. Seek medical attention. Hazardous inhalation: remove source of contamination or move victim to fresh air. If breathing has stopped, cardiopulmonary resuscitation (CPR) immediately (use protective mask with one way valve). If breathing is difficult give oxygen. Seek medical attention.
In Case of Skin Contact	Skin contact flushes the contact area with lukewarm running water. Hazardous skin contact flushes the contact area with lukewarm running water for at least 15 minutes. Remove contaminated clothing, taking care not to spread the chemical. Seek medical attention if irritation persists.
In Case of Eye Contact	Eye contact immediately flush eyes with running water for at least 15 minutes, keeping eye lids open. Take care not to rinse contaminated water into the non-affected eye. Always seek medical attention for accidents involving the eyes.
If Swallowed	Slight ingestion may cause irritation. Flush out mouth with water. Hazardous ingestion: Never give anything by mouth if victim is rapidly losing consciousness or is unconscious convulsing. Rinse mouth thoroughly with water. If breathing has stopped, trained personnel should begin artificial respiration (use protective mask with one-way valve), or if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Seek medical attention. Adults rarely experience symptoms with one-time ingestions of up to 3 mg, but ingestion of larger amounts can be serious.
Most Important Symptoms and Effects	Routes of entry: eye contact, skin contact, inhalation, ingestion. Toxicity data RTECS#:XP3583000 General observations Behavior (headache, coma) Cardiac (change in rate) Gastrointestinal (hyper motility, diarrhea) Overdose treatment includes the following. 1. For recent ingestions, empty the stomach by induced vomiting. Charcoal instillation may be useful up to 3 to 4 hours following ingestion. 2. Administer cardiac glycosides if congestive heart failure develops. 3. Use appropriate measures to control fever, hypoglycemia, and fluid loss. 4. Give ant adrenergic agents such as propranolol for treatment of increased sympathetic activity. 5. Intravenous hydrocortisone can be used to partially inhibit conversion of T 4 to T 3.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Extinguishing media Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.
Special Hazards Arising From the Substance/Mixture	Risks of explosion of the product in presence of mechanical impact: Not available Risks of explosion of the product in presence of static discharger: Fine air bone dust can be ignited by static discharge. Flammability emits toxic fumes under fire conditions. Fire degradation products these products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2), halogenated compounds.
Special PPE and/or Precautions for Firefighters	Special 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

Personal Precautions, Protective Equipment and Emergency Procedures	Protective clothing in case of large spill. Hooded full suit. Tyvek coveralls or equivalent air purifying respirator with particulate cartridge P100 (HEPA). Boots gloves.
Methods and Materials Used for Containment	Small spill and leak Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate labeled solid pharmaceutical waste class 261N container for waste disposal. Wash contaminated clothing before reuse. Ventilate area and wash spill site. Follow appropriate safe work practice. Large spill and leak Use a shovel put the material into an appropriate labeled waste disposal container. Finish cleaning by spreading water on the contaminated surface. Label and dispose as pharmaceutical waste class 261N. Follow appropriate safe work practices.
Cleanup Procedures	Small spill and leak Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate labeled solid pharmaceutical waste class 261N container for waste disposal. Wash contaminated clothing before reuse. Ventilate area and wash spill site. Follow appropriate safe work practice. Large spill and leak Use a shovel put the material into an appropriate labeled waste disposal container. Finish cleaning by spreading water on the contaminated surface. Label and dispose as pharmaceutical waste class 261N. Follow appropriate safe work practices.

Section 7: Handling and Storage

Precautions for Safe Handling	Use with adequate dust control. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation, skin and eye contact. Wash thoroughly after handling. Dispose as pharmaceutical waste 261N.
Conditions for Safe Storage	Material shall be packed in HDPE container. Preserve in tight containers, store at 2-8°C (As per USP monograph). In an airtight container, Protected from light, at a temperature between 2-8ºC (As per Ph. Eur. monograph).

Section 8: Exposure Controls/Personal Protection

Components with Workplace Control Parameters	Not established.
Appropriate Engineering Controls	Exposure to This material can be controlled in many ways. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. This general information can be used to help develop specific control measures. Ensure that control systems are properly designed and maintained. Comply with occupational, environmental, fire and other applicable regulations. Engineering methods to control hazardous conditions are preferred. Methods include mechanical (local exhaust) ventilation, process or personnel enclosure and control of process conditions. Administrative controls and personnel enclosure and control of process conditions. Administrative controls and personnel protective equipment may also be required. Supply sufficient replacement air to make up for air removed by exhaust system. Remove contaminated clothing promptly. Launder before re-wearing. Inform laundry personnel of contaminants hazards. Do not eat, drink or smoke in work areas. Wash hands to thoroughly after handling this material. Maintain good housekeeping.
PPE - Eye/Face Protection	Safety goggles
PPE - Skin Protection	Impervious gloves (e.g. Natural or butyl rubber, nitrile, neoprene or PVC). Azico Biophore standards require that all latex gloves should be medical grade hypoallergenic gloves or those who have type 1 hypersensitive reaction to latex nitrile gloves are recommended. Hooded full impervious suit and boots (e.g. Shield 2 or Tyvek brands and/or equivalent resistant protective clothing). Have a safety shower/eye wash fountain readily available the immediate work area.
PPE - Body Protection	Full suit with hood, or disposable/washable cover all. Boots rubber. Guidelines: GOOD: natural, butyl or styrene-butadiene rubber (SBR), neoprene, nitrile, polyvinyl chloride (PVC), polyurethane, nitrile + PVC, neoprene + SBR, neoprene + natural rubber, SBR/neoprene NOTE: Resistance of specific materials can vary from product to product. Evaluate resistance under conditions of use and maintain clothing carefully.
PPE - Respiratory Protection	Half-face piece. Air purifying respirator with particulate cartridge P100 (HEPA) (Less than 1g). Powdered air-purifying respirator (PAPR) with particulate cartridge P100 (HEPA) (greater than 1g). Where barrier technology or a high degree of process contaminant exists, respiratory protection may not be required. When working with quantities less than 1 kg and in the absence of appropriate local exhaust ventilation (LEV) or other containment, a half-face piece. Air-purifying respirator with particulate cartridge P100 (HEPA) and goggles is adequate. When working with quantities greater than 1 kg and in the absence of local exhaust ventilation (LEV) or other containment, a powdered Air purifying respirator (PAPR) with particulate cartridge P100 (HEPA) and helmet/hooded supplied air respirator is recommended. The specific respirator selected must be based on contamination levels found in the workplace, the specific operation and not exceed the working limits of the respirator. When performing cleaning activities refer to appropriate cleaning solution MSDS. NOTE: barrier technology utilizes physical containment facilities and methods to prevent human contact with a chemical or biological material with hazardous properties. Examples include glove boxes, flexible isolators, robotics or remote operation.

Section 9: Physical and Chemical Properties

Appearance	Solid. Light tan, odorless, crystalline powder.
Upper/Lower Flammability or Explosive Limits	No data available.
Odor	No data available.
Vapor Pressure	Not applicable.
Odor Threshold	Not available.
Vapor Density	Not applicable.
pH	not available
Relative Density	No data available.
Melting Point/Freezing Point	Decomposes.
Solubility	Very slightly Soluble in cold water
Initial Boiling Point and Boiling Range	Not applicable.
Flash Point	No data available.
Evaporation Rate	Not available
Flammability (Solid, Gas)	No data available.
Partition Coefficient	No data available.
Auto-Ignition Temperature	No data available.
Decomposition Temperature	No data available.
Viscosity	No data available.

Section 10: Stability and Reactivity

Reactivity	Strong oxidizing agents, strong acids
Chemical Stability	The product is stable.
Possibility of Hazardous Reactions	The product is stable. Reactivity/Incompatibility: Strong oxidizing agents, strong acids.
Conditions to Avoid	Strong oxidizing agents, strong acids.
Incompatible Materials	Strong oxidizing agents, strong acids
Hazardous Decomposition Products	Hazardous decomposition products these products are halogenated compounds

Section 11: Toxicological Information

Acute Toxicity - LD50 Oral	Hazardous in case of ingestion.
Acute Toxicity - Inhalation	Hazardous in case of inhalation (lung irritant).
Acute Toxicity - Dermal	Very hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening or occasionally blistering.
Acute Toxicity - Eye	Inflammation of the eye is characterized by redness, watering, and itching.
Skin Corrosion/Irritation	Slightly hazardous in case of skin contact (permeator). Skin inflammation is characterized by itching, scaling, reddening or occasionally blistering.
Serious Eye Damage/Irritation	Inflammation of the eye is characterized by redness, watering, and itching.
Respiratory or Skin Sensitization	Slightly hazardous in case of skin contact (permeator).
Germ Cell Mutagenicity	No information available
Carcinogenicity IARC	This product is not listed in IARC monographs, the NTP annual reports or the current ACGIH TLVs as a carcinogen or potential carcinogen.
Carcinogenicity ACGIH	This product is not listed in IARC monographs, the NTP annual reports or the current ACGIH TLVs as a carcinogen or potential carcinogen.
Carcinogenicity NTP	This product is not listed in IARC monographs, the NTP annual reports or the current ACGIH TLVs as a carcinogen or potential carcinogen.
Carcinogenicity OSHA	It is not regulated by OSHA as a carcinogen.
Reproductive Toxicity	no information available. Teratogenicity pregnancy category: A clinical experience humans has shown that appropriate therapeutic use of thyroid hormones does not cause adverse effects the fetus.
Specific Target Organ Toxicity - Single Exposure	No information available
Specific Target Organ Toxicity - Repeated Exposure	No information available
Aspiration Hazard	No information available

Section 12: Ecological Information

Toxicity	Not available
Persistence and Degradability	Toxicity of the products of biodegradation: degradation products are as toxic as the product itself. Special remarks
Bio-accumulative Potential	Product of biodegradation: possibly hazardous short-term degradation products are not likely however, long-term degradation products may arise.
Mobility in Soil	Not available
Other Adverse Effects	Not available

Section 13: Disposal Considerations

Waste Treatment Methods Product	Collect in sealed containers and place in appropriate labeled pharmaceuticals solid waste class 261N container according to internal and external standards and procedures. Follow all appropriate safe work procedures and federal, provincial and local regulations for disposal. Use only licensed disposal and waste hauling companies.
Waste Treatment Methods Packaging	Collect in sealed containers and place in appropriate labeled pharmaceuticals solid waste class 261N container according to internal and external standards and procedures. Follow all appropriate safe work procedures and federal, provincial and local regulations for disposal. Use only licensed disposal and waste hauling companies.
Special Precautions Landfill or Incinerations	No data available
Other Information	No data available

Section 14: Transport Information

UN Number	Not dangerous goods.
UN Proper Shipping Name	N/A
Transport Hazard Class(es)	N/A
Packaging Group	N/A
Environmental Hazards	N/A

Section 15: Regulatory Information

USA Classifications NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD INDEX: NFPA-HEALTH - blue: 1- slightly hazardous to health NFPA-FLAMMABILITY - red: 1 - materials that must be preheated before ignition can occur NFPA- REACTIVITY - yellow: 0 - normally stable Hazardous material information system (U.S.A) HCS (Hazardous communication system). (OSHA. U.S.A) HCS CLASS: Harmful DOT (Department of Transportation) (U.S.A) (Pictograms) Not a DOT-controlled material. European Classifications DSCL (Dangerous substances classifications) (Europe) (Pictograms) DSCL Risk (R) and safety (S) Phrases R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R48- Danger of serious damage to health by prolonged exposure. S36- Wear suitable protective clothing. ADR (European agreement of Dangerous goods by road) (Pictograms). Not controlled under ADR (Europe). Other regulations Not available.

Section 16: Other Information

Additional Information	Medical conditions aggravated by exposure: l hypersensitivity to material, adrenocortical insufficiency, cardiovascular disease, hypertension, diabetes mellitus, hyperthyroidism, pituitary insufficiency, thyrotoxicosis, and long-standing hypothyroidism or my edema. Short-term effects and signs & symptoms of over exposure. Possible eye, skin, gastrointestinal and/or respiratory tract irritation. The usual oral adult dose of Liothyronine (as the sodium salt) is 0.05mg as a single daily dose, which may be gradually increased up to 0.15 mg. NOTE: signs of toxicity may be delayed as long as 5 - 11 days after ingestion of Liothyronine. Possible allergic reaction to material of inhaled, ingested or in contact with skin. Effects from overdose can be delayed for several days and may include changes in appetite, changes in menstrual periods, sensitivity to heat, weight loss, palpitations, rapid and irregular pulse, headache, dizziness hand tremors nervousness or irritability, insomnia, delirium, leg cramps, shortness of breath, chest pain, sweating, high fever, vomiting, diarrhea, seizures, collapse and coma. Remark: The above adverse effects are based on clinical studies when the product was taken orally.
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