

## SAFETY DATA SHEET

Preparation Date: 2/18/2016

Revision Date: 2/18/2016

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** T2780  
**Product Name:** 3,3,5-TRIIODO-L-THYRONINE, FREE ACID

**Other means of identification**

**Synonyms:** Liothyronine;  
 L-Liothyronine;  
 Triiodothyronine  
 L-Triiodothyronine  
 Triiodo-L-thyronine  
 3,3',5-Triiodothyronine  
 3,5,3'-Triiodothyronine  
 Triothyronine  
 O-(4-Hydroxy-3-iodophenyl)-3,5-diiodo-L-tyrosine

**CAS #:** 6893-02-3  
**RTECS #** AY6750000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Research and Development.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

**Label elements**

**Warning****Hazard statements**

Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation

**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear protective gloves  
Wear eye/face protection

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
3,3',5-Triiodo-L-thyronine, Free Acid 6893-02-3	6893-02-3	100

**4. FIRST AID MEASURES****First aid measures****General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

#### 4. FIRST AID MEASURES

<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.
<b>Eye Contact:</b>	Flush eyes with water for 15 minutes. Get medical attention.
<b>Inhalation:</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

#### **Most important symptoms and effects, both acute and delayed**

**Symptoms** Irritating to eyes, respiratory system and skin. It may affect the heart. It may affect the thyroid.

#### **Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically

#### **Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

#### 5. FIRE-FIGHTING MEASURES

#### **Extinguishing Media**

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

#### **Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen iodide

**Specific hazards:** May be combustible at high temperatures

#### **Special Protective Actions for Firefighters**

**Specific Methods:** No information available.

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Avoid dust formation. All equipment used when handling the product must be grounded.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Keep containers tightly closed in a dry, cool and well-ventilated place. Freeze. Store at -20 °C (-25 °C to -10 °C). Store away from incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents. Bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
3,3',5-Triiodo-L-thyronine, Free Acid 6893-02-3	None	None	None	None

##### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
3,3',5-Triiodo-L-thyronine, Free Acid 6893-02-3	None	None	None	None

##### **Australia and Mexico**

Components	Australia	Mexico
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3,3',5-Triiodo-L-thyronine, Free Acid 6893-02-3	None	None
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### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Chemical resistant apron. Gloves. Long sleeved clothing.
- Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent. .
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystalline powder.	<b>Color:</b> Light Tan. Off-white. White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Formula:</b> C15-H12-I3-N-O4
<b>Molecular/Formula weight:</b> 650.98	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> No information available.	<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available
<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available	<b>pH:</b> No information available
<b>Melting point/range(°C/°F):</b> Decomposes	<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> 236-237°C/456.8-458.6°F
<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available	<b>Specific gravity:</b> No information available
<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> 0.93
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Insoluble in Propylene Glycol Soluble in dilute alkalis with the formation of a brownish, water-soluble, sodium salt Very slightly soluble in water Solubility in Water: 3.958 mg/l at 37 deg. C

## 10. STABILITY AND REACTIVITY

### **Reactivity**

Reactive with oxidizing agents  
Reactive with bases

### **Chemical stability**

#### **Stability:**

Stable under recommended storage conditions

#### **Possibility of Hazardous Reactions:**

Hazardous polymerization does not occur

#### **Conditions to avoid:**

Heat. Ignition sources. Incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents. Bases.

#### **Hazardous decomposition products:**

When heated to decomposition it emits toxic fumes. Carbon monoxide. Nitrogen oxides (NOx). Hydrogen iodide.

### **Other Information**

#### **Corrosivity:**

No information available

Special Remarks on Corrosivity: No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**

Ingestion. Inhalation. Skin.

### Acute Toxicity

### Component Information

*3,3',5-Triiodo-L-thyronine, Free Acid - 6893-02-3*

**LD50/oral/rat** = No information available

**LD50/oral/mouse** = No information available

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = 7500 mg/kg Oral LDL (Lowest Lethal Dose) Rat

### Product Information

**LD50/oral/rat =**

**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse =**

**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**VALUE-Gas** = No information available

**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

**VALUE-Vapor** = No information available

**VALUE - Gas** = No information available

**VALUE - Dust/Mist** = No information available

### Symptoms

**Skin Contact:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** Irritating to respiratory system.

**Ingestion**

May cause gastrointestinal disturbances. May cause abdominal pain, nausea, vomiting, diarrhea. May cause thirst. May cause flushing and sweating. May cause headache. It may affect cardiovascular system (hypertension). May affect the cardiovascular system (tachycardia). May affect the cardiovascular system (palpitations). It may affect the kidneys and liver. May affect blood (changes in serum composition). May affect behavior/central nervous system (tremor, convulsions). May affect behavior/central nervous system (excitement). May affect behavior/central nervous system (lethargy, fatigue). It may affect behavior/central nervous system (irritability). May affect behavior/central nervous system (confusion). May affect behavior/central nervous system (insomnia, hyperactivity, anxiety, agitation). It may also cause high fever. May cause thyroid hyperfunction (hyperthyroidism).

**Aspiration hazard**

No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity**

Prolonged or repeated ingestion may affect the liver, and kidneys

**Sensitization:**

No information available

**Mutagenic Effects:**

No information available

**Carcinogenic effects:**

Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
3,3',5-Triiodo-L-thyronine, Free Acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity**

No data is available

**Reproductive Effects:**

No information available

**Developmental Effects:**

No information available

**Teratogenic Effects:**

No information available

**Specific Target Organ Toxicity****STOT - single exposure**

Respiratory system.

**STOT - repeated exposure**

No information available

**Target Organs:**

Heart. Thyroid.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity****Ecotoxicity effects:**

No data available.

**Persistence and degradability:**

No information available

**Bioaccumulative potential:**

No information available

**Mobility:**

No information available



## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
3,3',5-Triiodo-L-thyronine, Free Acid	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions:** No Information available  
**Symbol(s):** No information available

### TDG (Canada)

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

### ADR

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

## 14. TRANSPORT INFORMATION

**IMDG Page:** No information available  
**Marine Pollutant** No information available  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

### IATA

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**ERG Code:** No information available  
**Special Provisions** No information available  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
3,3',5-Triiodo-L-thyronine, Free Acid	Not Listed	Not present	Not present	Not present	Present	Present	Present 229-999-3

### U.S. Regulations

#### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

##### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

##### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
3,3',5-Triiodo-L-thyronine, Free Acid	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
3,3',5-Triiodo-L-thyronine, Free Acid	None	None	None	None	None

#### U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
3,3',5-Triiodo-L-thyronine, Free Acid	Not Applicable	Not Applicable

#### Canada

**WHMIS hazard class:**  
D2B Toxic materials

#### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

#### Inventory

Components	Canada (DSL)	Canada (NDSL)
3,3',5-Triiodo-L-thyronine, Free Acid	Not Listed	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
3,3',5-Triiodo-L-thyronine, Free Acid	Not listed	Not listed

#### EU Classification

##### R-phrase(s)

R36/37/38 - Irritating to eyes, respiratory system and skin.

##### S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 - Wear suitable gloves.

Components	Classification	Concentration Limits:	Safety Phrases
3,3',5-Triiodo-L-thyronine, Free Acid		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

#### Indication of danger:

Xi - Irritant.



## 16. OTHER INFORMATION

**Preparation Date:** 2/18/2016  
**Revision Date:** 2/18/2016  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**