

## SAFETY DATA SHEET

### Section 1: Identification

Product name: Thallium  
Product use: For laboratory research purposes.  
Supplier: Trace Sciences International  
40 Vogell Rd Suite 42  
Richmond Hill, ON L4B 3N6  
CANADA  
Telephone: +1 905-770-1100  
Fax: +1 905-770-1160  
Emergency Phone: CANUTEC +1-613-996-6666

### Section 2: Hazard(s) Identification

#### 2.1 GHS Classification

Acute toxicity, Oral (Category 2), H300  
Acute toxicity, Inhalation (Category 2), H330  
Specific target organ toxicity - repeated exposure (Category 2), H373  
Short-term (acute) aquatic hazard (Category 3), H402  
Long-term (chronic) aquatic hazard (Category 4), H413

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



##### Signal word

Danger

##### Hazard statement(s):

H300 + H330 Fatal if swallowed or if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H402 Harmful to aquatic life.  
H413 May cause long lasting harmful effects to aquatic life.

##### Precautionary statement(s):

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P284 Wear respiratory protection.  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
P314 Get medical advice/ attention if you feel unwell.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Section 3: Composition/ Information on Ingredients

**Formula** : TI  
**Molecular Weight** : 204.38 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Thallium	7440-28-0	231-138-1	-	<=100%

### Section 4: First-Aid Measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

##### If swallowed

Never give anything by mouth to an unconscious person. If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

### Section 5: Fire-Fighting Measures

#### 5.1 Conditions of flammability

Not flammable or combustible.

#### 5.2 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Thallium oxides

#### 5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.5 Further information

No data available

## Section 6: Accidental Release Measures

### 6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### 7.2 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Thallium	7440-28-0	TWA	0.02 mg/m <sup>3</sup>	Canada. British Columbia OEL
		TWA	0.1 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	0.02 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.02 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

### Remarks

Substance may be readily absorbed through intact skin.  
 Contributes significantly to the overall exposure by the skin route.

### 8.2 Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Eye protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin and body protection**

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Specific engineering controls**

Use mechanical exhaust or laboratory fume hood to avoid exposure.

### **Section 9: Physical and Chemical Properties**

#### **Appearance**

Form	Pieces
Colour	Light grey

#### **Safety Data**

pH	No data available
Melting point/freezing point	303 °C (577 °F)
Boiling point	1,457 °C (2,655 °F)
Flash point	Not applicable
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

### **Section 10: Stability and Reactivity**

#### **10.1 Chemical stability**

Stable under recommended storage conditions

#### **10.2 Possibility of hazardous reactions**

No data available

#### **10.3 Conditions to avoid**

Air sensitive.

#### **10.4 Materials to avoid**

Strong acids, strong oxidizing agents

## 10.5 Hazardous decomposition products

See section 5

## Section 11: Toxicological Information

### Acute toxicity

#### Oral

Acute toxicity estimate Oral - 5.1 mg/kg  
(Expert judgment)

#### Inhalation

Acute toxicity estimate Inhalation - 4 h - 0.051 mg/l  
(Expert judgment)

#### Dermal

No data available

#### Other information on acute toxicity

No data available

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

No data available

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

Possible risk of congenital malformation in the fetus.

### Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

May cause damage to organs through prolonged or repeated exposure.

### Aspiration hazard

No data available

### Signs and Symptoms of Exposure

The most characteristic symptom of thallium exposure is alopecia (loss of hair). Cutaneous effects may include dry, scaly skin and impairment of nail growth often resulting in the appearance of crescent-shaped strips across fingernails and toenails (Mees' line). Other symptoms in acute poisoning relate chiefly to the gastrointestinal tract, nervous system, skin, eyes, and cardiovascular system. Acute poisoning results in swelling of the feet and legs, arthralgia, vomiting, insomnia, hyperesthesia and paresthesia of the hands and feet, mental confusion, polyneuritis with severe pain in the legs and loins, partial paralysis of the legs, angina-like pains, nephritis, wasting and weakness, and lymphocytosis and eosinophilia. In chronic

poisoning, central and peripheral nervous system abnormalities may persist including ataxia, tremor, incoordination, paralysis of extremities, endocrine disorders, memory loss, and psychoses may develop.

**Additional Information**

RTECS: XG3425000

**Section 12: Ecological Information**

**12.1 Toxicity**

Toxicity to fish LC50 - Cyprinodon variegatus (sheepshead minnow) - 21.0 mg/l - 96.0 h

Mortality NOEC - Cyprinodon variegatus (sheepshead minnow) - 14.0 mg/l - 96.0 h

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

**Section 13: Disposal Considerations**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**Section 14: Transport Information**

**IATA**

UN number: UN3288 Class: 6.1 Packing group: II

Proper shipping name: Toxic solid, inorganic, n.o.s. (Thallium)

**Section 15: Regulatory Information**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

## Section 16: Other Information

### **Further information**

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