

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

## Section 1 - Identification

**Product Name** Thallium rod

**CAS No** 7440-28-0

**Product Code** 00888

**Address** ThermoFisher Scientific Australia Pty Ltd  
 5 Caribbean Drive, Scoresby  
 VICTORIA 3179, Australia

**Emergency Tel.** **CHEMTREC®**  
**03 9757 4559 or +613 9757 4559**

**Telephone / Fax Numbers** Tel: 1300 735 292  
 Fax: 1800 067 639

**E-mail address** ANZinfo@thermofisher.com

**Recommended Use** Laboratory chemicals.

**Uses advised against** This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.  
 This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

## Section 2 - Hazard(s) Identification

### Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

**Physical hazards**  
 No hazards identified

### **Health hazards**

Acute Oral Toxicity  
 Acute Inhalation Toxicity - Dusts and Mists  
 Specific target organ toxicity - (repeated exposure)

Category 2  
 Category 2  
 Category 2

**Environmental hazards**  
 No hazards identified

### Label Elements



Skull and Crossbones



Health Hazard

**Signal Word****Danger****Hazard Statements**

H373 - May cause damage to organs through prolonged or repeated exposure  
H300 + H330 - Fatal if swallowed or if inhaled

**Precautionary Statements**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed 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  
P284 - Wear respiratory protection  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P310 - Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth  
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

**Other information**

No information available

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Thallium	7440-28-0	<=100

## Section 4 - First Aid Measures

<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Eye Contact</b>	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	None reasonably foreseeable.
<b>Notes to Physician</b>	Treat symptomatically.

## Section 5 - Fire Fighting Measures

### Suitable Extinguishing Media

approved class D extinguishers. Do not use water or foam.

### Extinguishing media which must not be used for safety reasons

No information available.

### Hazardous Decomposition Products

Thallium oxide.

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

### Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## Section 6 - Accidental Release Measures

### Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

### Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

### Methods for Containment and Clean Up

#### Clean-up methods - small spillage

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

#### Clean-up methods - large spillage

Typically only supplied in small quantities as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

### Conditions for Safe Storage, Including any Incompatibilities

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

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

**Exposure limits**

**AUS** - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]  
 Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia **ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace. **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Thallium	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> Skin	TWA: 0.02 mg/m <sup>3</sup> Skin	TWA: 0.1 mg/m <sup>3</sup>	

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment****Eye Protection**

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Nitrile rubber	480 minutes	0.11mm	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection**

Long sleeved clothing

**Respiratory Protection**

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

**Recommended Filter type:**

Particulates filter conforming to EN 143 (or AUS/NZ equivalent)  
 When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**

No information available.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties****Appearance****Physical State**

Solid Granules

Odor	No information available	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	303.5 °C / 578.3 °F	
Softening Point	No data available	
Boiling Point/Range	1457 °C / 2654.6 °F	
Flash Point	No information available	<b>Method -</b> No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	23 hPa @ 20 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	11.85 g/cm3	@ 20 °C
Bulk Density	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other information

## Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	Oxidizing agent.
Hazardous Decomposition Products	Thallium oxide.
Hazardous Polymerization	No information available.

## Section 11 - Toxicological Information

**Information on Toxicological Effects****Product Information**

(a) acute toxicity;	
Oral	Category 2
Dermal	No data available
Inhalation	Category 2
(b) skin corrosion/irritation;	No data available
(c) serious eye damage/irritation;	No data available
(d) respiratory or skin sensitization;	
Respiratory	No data available

<b>Skin</b>	No data available
<b>(e) germ cell mutagenicity;</b>	No data available
<b>(f) carcinogenicity;</b>	No data available There are no known carcinogenic chemicals in this product
<b>(g) reproductive toxicity;</b>	No data available
<b>(h) STOT-single exposure;</b>	No data available
<b>(i) STOT-repeated exposure;</b>	Category 2
<b>Target Organs</b>	Central nervous system (CNS), Liver, Lungs.
<b>(j) aspiration hazard;</b>	Not applicable Solid
<b>Symptoms / effects, both acute and delayed</b>	No information available

## Section 12 - Ecological Information

<b>Ecotoxicity effects</b>	May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.
<b>Persistence and Degradability</b>	Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary
<b>Persistence</b>	May persist.
<b>Degradation in sewage treatment plant</b>	Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.
<b>Bioaccumulative Potential</b>	Product has a high potential to bioconcentrate
<b>Mobility</b>	No information available.
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations

<b>Waste from Residues/Unused Products</b>	Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

## Section 14 - Transport Information

<b>IMDG/IMO</b>	Not regulated
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<b>ADG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>Environmental hazards</b>	No hazards identified
<b>Special Precautions</b>	No special precautions required
<b>Additional information</b>	None known

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National Regulations                      **Australia**

See section 8 for national exposure control parameters.

Component	Health Surveillance
Thallium 7440-28-0 ( ≤100 )	Listed Demographic, medical and occupational history Physical examination Urinary Thallium

#### **Standard for the Uniform Scheduling of Medicines and Poisons**

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Thallium - 7440-28-0	Schedule 7 listed

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Thallium - 7440-28-0	Present	-

#### **Australian - Illicit Drug Precursors/Reagents Substance List**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

#### **Chemicals of Security Concern**

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

**National pollutant inventory**                      Not applicable

#### **Prohibition or notification/licensing requirements**

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

**International Inventories**

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Thallium	X	X	231-138-1	-	X	X	-	X	X		X	KE-33716

**Legend:** X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**International Regulations**

**Ozone Depletion Potential** This product does not contain any known or suspected substance

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Rotterdam Convention (PIC)** Not applicable

**Basel convention on the control of transboundary movements of hazardous wastes and their disposal**

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Thallium - 7440-28-0	Annex I - Y30	Y30

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Thallium	7440-28-0	Not applicable	Not applicable	Not applicable	Not applicable

**Authorisation/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Thallium	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

**Section 16 - Other Information****Legend**

**AICS** - Australian Inventory of Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**IECSC** - Chinese Inventory of Existing Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from

**NZIoC** - New Zealand Inventory of Chemicals

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**CAS** - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code



Ships

**NZS 5433:2012** - Transport of Dangerous Goods on Land

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**WEL** - Workplace Exposure Limit

**DNEL** - Derived No Effect Level

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**VOC** - (Volatile Organic Compound)

**ADG** Australian Code for the Transport of Dangerous Goods by Road and Rail

**OECD** - Organisation for Economic Co-operation and Development

**LC50** - Lethal Concentration 50%

**ATE** - Acute Toxicity Estimate

**RPE** - Respiratory Protective Equipment

**NOEC** - No Observed Effect Concentration

**BCF** - Bioconcentration factor

**PBT** - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

#### Revision Date

18-Nov-2022

#### Revision Summary

Not applicable.

**This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).**

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

## End of Safety Data Sheet