CHINATUNGSTEN

ONLINE MANU. & SALES CORP

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Thorium MSDS

Formula	**Th**
Structure	
Description	**Silver to grayish radioactive metal. Twice as dense as lead.**
Uses	**Because the thorium atom density is higher in thorium metal than in any thorium compound, metal is the preferred form of thorium where the highest nuclear reactivity or highest density is wanted.**

Registry Numbers and Inventories.

CAS	**7440-29-1**
NIH PubChem CID	**23960**
EC (EINECS/ELINCS)	**231-139-7**
RTECS	**XO6400000**
UN (DOT)	**2975**
Merck	**12,9514**
Beilstein/Gmelin	**16314 (G)**
Canada DSL/NDSL	**DSL**
US TSCA	**Listed**
Austrailia AICS	**Listed**
New Zealand	**Listed**

Properties.

Formula	**Th**
Formula mass	**232.04**
Melting point, °C	**1120 - 1160**
Boiling point, °C	**1730 - 2230**
Vapor pressure, mm_{Hg}	**0.1 (2431 C)**
Density	**12.3 g/cm3**
Solubility in water	**Insouluble**
Thermal expansion	**0.0000125/K**
Heat of fusion	**20.93 kJ/mol**
Heat of vaporization	**598 kj/mole**

Hazards and Protection.

Storage	**Keep in a cool, dry, dark location in a tightly sealed container or cylinder. Keep away from incompatible materials, ignition sources and untrained individuals. Secure and label area. Protect containers/cylinders from physical damage.**
Handling	**All chemicals should be considered hazardous. Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood.**
Protection	**Wear appropriate protective gloves, clothing and goggles.**
Respirators	**Wear positive pressure self-contained breathing apparatus (SCBA).**
Small spills/leaks	**Contact the local, state, or Department Of Energy Radiological Response Team. Do not use water. Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Keep material dry. Do not attempt to sweep up dry material.**
Stability	**When pure it is air-stable.**

Incompatibilities	**React vigorously with incandescence.**

Fire.

Autoignition,	**130 °C**
Fire fighting	**Contact the local, state, or Department Of Energy Radiological Response Team. Do not use water. Use graphite, soda ash, powdered sodium chloride, or suitable dry powder.**
Fire potential	**May burn but does not ignite readily.**
Hazards	**Some of these materials may burn, but most do not ignite readily. Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air. Extremely flammable; will ignite itself if exposed to air. Burns rapidly, releasing dense, white, irritating fumes. Substance may be transported in a molten form. May re-ignite after fire is extinguished. Nitrates are oxidizers and may ignite other combustibles. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard.**

Health.

Exposure limit(s)	**OEL_Russia: 0.05mg/m3**
Carcinogin	**I-1**
Exposure effects	**Supralethal radiation doses may result in headache, acute brain syndrome, alterations in mental status including coma, and (rarely) seizures within minutes of exposure. Prenatal ionizing radiation exposure may cause congenital anomalies, mental retardation, and an increased incidence of seizures.**
Ingestion	**Gastrointestinal syndrome (nausea/vomiting) commonly occurs after doses of 9 to 20 gy and may occur following doses as low as 5 gy. Initial vomiting is followed by persistent diarrhea, which may be bloody.**
Inhalation	**Pulmonary radiation injury may result in radiation pneumonitis and radiation pulmonary fibrosis.**
Skin	**Thermonuclear burns may occur. If erythema is**

	produced by a penetrating radiation, serious systemic injury is certain.
Eyes	**See Inhalation.**
First aid	
Ingestion	**Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person.**
Inhalation	**Monitoring exposed patients for contamination and decontamination procedures should be started. All personnel involved in handling patients should wear disposable protective clothing. The patient should be completely undressed and given a soap and water bath or shower (if the patient's condition permits and if the facility exists). Acute inhalation of radionuclides presents some difficult problems.**
Skin	**Immediately flush with running water for at least 20 minutes. See Ingestion.**
Eyes	**Immediately flush with running water for at least 20 minutes. See Ingestion.**