



Chemtrec: (800) 424-9300  
Poison Center: (800) 562-8236  
Revision Date: January 8<sup>th</sup>, 2019

**SAFETY DATA SHEET**

Identity: Tantalum Selenide

Formula: TaSe<sub>2</sub>

**SECTION I - GENERAL INFORMATION**

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

**SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

Molecular weight: 338.87

CAS #	OSHA PEL	ACGIH TLV	%
12039-55-3	.2mg (Se)/m <sup>3</sup>	.2mg (Se)/m <sup>3</sup>	0.0100.0%

**SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS**

Physical States: Solid

Boiling Point: N/A

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: N/A

Specific Gravity: 8.6 gm/cc

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* Black-dark red powder and pieces, no odor

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA:**

*Method Used:* Unknown

*Explosive Limits:* LEL: N/A

UEL: N/A

*Extinguishing Media:* Use suitable extinguishing media for surrounding materials and type of fire.

*Special Fire Fighting Procedures:* Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosive Hazards:* When heated to decomposition, tantalum selenide may emit toxic fumes of selenium.



# Super Conductor Materials, Inc.

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## SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Strong Acids

*Hazardous Decomposition or Byproducts:* H<sub>2</sub>Se, SeO<sub>2</sub>

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

## SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? Yes      Other? Yes

To the best of our knowledge the chemical, physical and toxicological properties of tantalum selenide have been thoroughly investigated and recorded.

Some industrial skin injuries from tantalum have been reported. Systemic industrial poisoning however is apparently unknown. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Selenium compounds are poison by inhalation and intravenous routes. Some selenium compounds are experimental carcinogens. Long-term exposure may be a cause of amyotrophic lateral sclerosis in humans, just as it may cause "blind staggers" in cattle. Elemental selenium has low acute systemic toxicity, but dust or fumes can cause serious irritation of the respiratory tract. Inorganic selenium compounds can cause dermatitis. Garlic odor of breath is a common symptom. Pallor, nervousness, depression, digestive disturbances and death have been reported in cases if chronic exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition).

### Signs and Symptoms of Overexposure:

*Inhalation:* Acute selenium poisoning may cause nervousness, fever, vomiting, drop in blood pressure, labored breathing, depression coated tongue, gastrointestinal disorder or garlic odor of breath.

*Ingestion:* Chronic selenium toxicity may cause alkali disease, loss of vitality, atrophy, or cirrhosis of the liver

*Skin:* May cause redness, itching, inflammation and burning.

*Eye:* May cause redness, itching, burning and watering.

### Health Hazards (Acute and Chronic):

#### *Inhalation:*

Acute: May cause irritation to the respiratory tract and acute selenium poisoning.

Chronic: May cause chronic selenium poisoning. Continued intoxication may cause loss of nails and hair, hemolytic anemia, and kidney, liver and spleen damage.

#### *Ingestion:*

Acute: May cause gastrointestinal disturbances.

Chronic: May cause chronic selenium toxicity.

#### *Skin:*

Acute: May cause irritation.

Chronic: May cause dermatitis.



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*Eye:*

Acute: May cause irritation.

Chronic: May cause visual disturbances and blurred vision.

*Target Organ:* Upper respiratory system, eyes, skin, liver, kidneys, and blood

*Carcinogenicity:* NTP? No IARC Monographs? No OSHA Regulated? No

*Medical Conditions Aggravated by Exposure:* Pre-existing respiratory and skin disorders.

*Emergency and First Aid Procedures:*

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention.

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention.

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

*Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

## SECTION VIII - CONTROL MEASURES

*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact, goggles or face shield.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established