



Super Conductor Materials, Inc.

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

SAFETY DATA SHEET

Identity: Tungsten selenide

Formula: WSe₂

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: 341.77

CAS #	OSHA PEL	ACGIH TLV	%
12067-46-8	0.2mg/m ³	0.2mg/m ³	0.0-100.0%

SECTION III - PHYSICAL CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Specific Gravity: 9.32 gm/cc

Melting Point: N/A

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

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Appearance and odor: Blue powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown

Explosive Limits: LEL: NA UEL: NA

Extinguishing Method: Use suitable extinguishing agent for surrounding material 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 fires are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

When heated to decomposition, tungsten selenide may emit toxic fumes of selenium.



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SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: None recorded

Hazardous Decomposition or ByProducts: Fumes of selenium

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Route of Entry: Inhalation? Yes Ingestion? Yes Skin? Yes Eyes? Yes Other? No

To the best of our knowledge the chemical, physical and toxicological properties of tungsten selenide have not been thoroughly investigated and recorded.

Industrially, tungsten does not constitute an important health hazard. Exposure is related chiefly to the dust arising from the crushing and milling of the two chief ores of tungsten, namely sheelite and wolframite. Large overdoses cause central nervous system disturbances, diarrhea, respiratory failure and death in experimental animals. (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, somnolence, low blood pressure, labored breathing, depression, and coated tongue, garlic odor of breath.

Ingestion: May cause alkali disease, loss of vitality, atrophy, cirrhosis of the liver, degeneration and necrosis of the myocardium

Skin: May cause redness, inflammation, and burning.

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

Health Hazards (Acute and Chronic):

Inhalation:

Acute: POISON, may cause irritation to the respiratory tract and acute selenium poisoning.

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

Ingestion:

Acute: May cause gastrointestinal disturbances

Chronic: May cause chronic selenium poisoning, damage to nervous system and diarrhea.

Skin:

Acute: May cause irritation



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Chronic: May cause dermatitis

Eye:

Acute: May cause irritation

Chronic: No chronic health effects recorded

Target Organs: Upper and central nervous systems, liver, kidneys and blood

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

Medial conditions Generally 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. Never induce vomiting or give anything by mouth to an unconscious person

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 – SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storage: Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

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

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area and provide ventilation and extinguish sources of ignition. Vacuum up spill using 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:

In accordance with Federal, State and Local Regulations.

Hazard Label Information:

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

SECTION VIII – PROTECTIVE EQUIPMENT

Protective Equipment:

NIOSH approved respirator, impervious gloves, safety glasses, and clothes to prevent contact...

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Special: Handle in a controlled, enclosed process

Mechanical (General): NOT Recommended.

Other: None



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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