

# Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

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

## SAFETY DATA SHEET

Identity: Mercury telluride

Formula: HgTe

### 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

Form Weight: 328.19

CAS #	OSHA PEL	ACGIH TLV	%
12068-90-5	.1mg (Te)/m3	.1mg (Te)/m3	0.0-100.0%

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: NA

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

Melting Point: NA

Specific Gravity(water=1): 8.085 g/cc

Evaporation Rate:

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* Gray/Silver powder and pieces, no odor.

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

*Method Used:* Non-Flammable *Explosive Limits: LEL:* NA *UEL:* NA

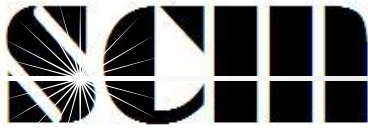
*Extinguishing Media:* Use suitable extinguishing agent for surrounding material and type of fire.

#### *Special Fire Fighting Procedures:*

Firefighters must wear full face, self-contaminated 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 Explosion Hazards:*

When heated to decomposition, mercury telluride may emit toxic fumes of telluride and mercury.



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## SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid:* None

*Incompatibility – Materials to Avoid:* Strong acids.

*Hazardous Decomposition or Byproducts:* Fumes of tellurium, mercury and their oxides.

*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 mercury telluride have not been thoroughly investigated and recorded.

Elemental mercury, liquid and vapor, is toxic due to its liquid solubility, lack of charge, and membrane permeability. Inhaled vapors (80%) diffuse rapidly through alveolar membranes into the blood and are systemically transported to body tissues, including the brain. Exposure to high concentrations (>1.2 mg/m<sup>3</sup>) of vapors for brief periods can cause pneumonitis, chest pains, dyspnea, coughing. Later, stomatitis, gingivitis, and salivation occur. Mercury can be absorbed slowly through the skin. Chronic symptoms involve the central nervous system, with tremors and various neuropsychiatric disturbances. The TLV would be exceeded if the contents of a small mercury clinical thermometer were dispersed in a closed 100' × 100' × 15' room. Gastrointestinal uptake of mercury is low (<5%).

Elemental tellurium has relatively low toxicity. It is converted in the body to dimethyl telluride which imparts a garlic-like odor to the breath and sweat. Heavy exposures may, in addition, result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest (Sax, Dangerous Properties of Industrial Materials).

### Signs and Symptoms of Overexposure:

*Inhalation:* May cause a dry mouth, garlic like odor to breath, sweat and urine, loss of appetite, sleepiness and nausea. Mercury poisoning may cause somatic, tremors, excessive salivation, pain when chewing, gingivitis when loosening of the teeth, dark line on gums, psychic disturbance including loss of memory, insomnia, lack of confidence, and irritability, vague fears and depression.

*Ingestion:* May cause a dry mouth, garlic like odor to breath, sweat and urine, loss of appetite, sleepiness and nausea. Mercury poisoning may cause somatic, tremors, excessive salivation, pain when chewing, gingivitis when loosening of the teeth, dark line on gums, psychic disturbance including loss of memory, insomnia, lack of confidence, and irritability, vague fears and depression.

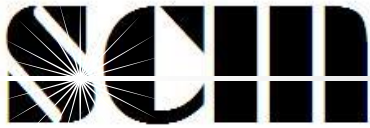
*Skin:* May cause redness, itching, small discrete ulcers accompanied by conjunctivitis and inflammation of the nose and throat.

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

### Health Hazards (Acute and Chronic):

#### *Inhalation:*

Acute: May cause dry mouth, garlic odor to breath, sweat and urine and mercury poisoning.



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Chronic: May cause anorexia, nausea, depression, somnolence and mercury poisoning.

### *Ingestion:*

Acute: May cause dry mouth, suppression of sweat, garlic odor to breath and urine, and mercury poisoning.

Chronic: May cause anorexia, nausea, somnolence and mercury poisoning

### *Skin:*

Acute: May cause irritation.

Chronic: May cause dermatitis.

### *Eye:*

Acute: May cause irritation.

Chronic: May cause conjunctivitis.

*Target Organ:* Skin, central nervous system, respiratory system, kidneys and eyes.

*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. 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 - 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.



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*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): NOT 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**