



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

SAFETY DATA SHEET

Identity: Cadmium Telluride

Formula: CdTe

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: 240.00

| CAS # | OSHA PEL | ACGIH TLV | % |
|-----------|------------|------------|--------------|
| 1306-25-8 | 5ug(Cd)/m3 | 5ug(Cd)/m3 | 0.0 -100.0 % |

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1121.00°C

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

Melting Point: 1041.00 °C

Specific Gravity(H₂O=1): 6.20 at 15.0°C

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble/

Insoluble in acids

Appearance and odor: Black to grey powder or 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 Explosion Hazards:

When heated to decomposition, cadmium telluride may emit toxic fumes of cadmium and tellurium. Oxidizes upon prolonged exposure to moist air.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None.

Incompatibility: Strong oxidizing agents, nitric acid, uric acid

Hazardous Decomposition or Byproducts: Airborne cadmium fumes, cadmium and tellurium oxide, tellurium hydride and hydrogen gas.

Hazardous Polymerization: Will not occur.

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

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

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

Cadmium compounds are confirmed carcinogens producing lung tumors. Poison by ingestion. Inhalation of fumes or dusts affects the respiratory tract and the kidneys. Brief exposure to high concentrations may result in pulmonary edema and death. Fatal concentrations may be breathed without sufficient discomfort to warn a worker to leave the exposure. Cadmium oxide fumes can cause metal fume fever. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

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. Large doses can be fatal. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: Throat dryness, cough, headache, vomiting, chest pain, extreme restlessness and irritability, pneumonitis, possibly bronchopneumonia. May cause suppression of sweat, nausea, somnolence, inflammation of the gastric mucosa, intestinal hemorrhage, intense hyperemia of internal organs and respiratory paralysis.

Ingestion: Increased salivation, choking, vomiting, abdominal pain, anemia, renal dysfunction, diarrhea, tenesmus.

Skin: Redness, itching, and burning.

Eye: Redness, itching, burning, watering, and swelling.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation of the upper respiratory system, vertigo, constriction of the throat, metallic taste in the mouth and cough, dyspnea, cyanosis, chest pain, flu-like symptoms pulmonary edema and acute tellurium toxicity. More severe exposure may cause pulmonary fibrosis/hypertrophy of bronchial vessels and renal necrosis and/or liver damage.



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

Chronic: May cause irreversible lung injury, pulmonary fibrosis, damage to the olfactory nerve and chronic tellurium toxicity. All routes of entry may cause kidney damage, osteomalacia, osteoporosis, spontaneous fractures, hemolytic and iron-deficiency anemia, weight loss, irritability, renal tubular necrosis, cardiovascular effects, liver damage and prostatic and respiratory cancers.

Ingestion:

Acute: May cause irritation of mouth and throat, increased salivation, burning sensation and cramps in stomach, nausea, headache and vomiting, weakness, dizziness, diarrhea, shock, convulsions, coma and death.

Chronic: May cause irreversible renal tubular dysfunction, functional changes in the liver, pancreas and adrenal glands.

Skin:

Acute: May cause irritation.

Chronic: Repeated or prolonged exposure may result in dermatitis.

Eye:

Acute: May cause irritation, redness, pain and smarting.

Chronic: Repeated or prolonged exposure may cause conjunctivitis.

Target Organs: May affect the respiratory system, kidneys, prostate, central nervous system, skin and blood.

Carcinogenicity: NTP? Yes IARC Monographs? Yes OSHA Regulated? Yes

Medical Conditions Aggravated by Exposure: Pre-existing respiratory 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. Isolate spill area, provide ventilation and extinguish sources of ignition. 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.

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