



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

**SAFETY DATA SHEET**

Identity: Cadmium Fluoride

Formula: CdF<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: 150.40

CAS #	OSHA PEL	ACGIH TLV	%
7790-79-6	5ug (Cd)/m <sup>3</sup>	.05mg (Cd)/m <sup>3</sup>	100.0%

**SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS**

Physical States: Solid

Boiling Point: 1758.00°C	Vapor Pressure (vs. air or mmHg): 1mm at 1112.0°C
Melting Point: 1100.00°C	Specific gravity: 6.64 gm/cc
Evaporation Rate: N/A	Flash Point: N/A
Solubility in water: Insoluble /	
Soluble in acid and hydrochloric acid	

*Appearance and odor:* Cubic white crystals, 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 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 fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:*  
-When heated to decomposition, cadmium fluoride may emit toxic fumes of cadmium and fluorine.



-May have a violent reaction with potassium.

SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* Oxidizing agents and potassium.

*Incompatibility:* Oxidizing agents and potassium

*Hazardous Decomposition or Byproducts:* Airborne cadmium and fluorine fumes, cadmium oxide 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 fluoride 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.)

Inorganic fluorides are generally highly irritating and toxic. Chronic fluorine poisoning, or "fluorosis", occurs among miners of cryolite, and consists of sclerosis of the bones, caused by fixation of the calcium by fluorine. There may also be some calcification of the ligaments. The teeth are mottled, and there is osteosclerosis and ostemalacia. Large doses can cause very severe nausea, vomiting, diarrhea, aggravate attacks of asthma and severe bone changes, making normal movements painful. Some signs of pulmonary fibrosis are noted. Irritants to the eyes, skin and mucous membranes. There may be an eosinophilia and impairment of growth in young workers. Symptoms of intoxication include gastric, intestinal, circulatory, respiratory and nervous complaints and rashes. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

*Signs and Symptoms of Overexposure:*

*Inhalation:* Throat dryness, shortness of breath, excessive salivation, thirst, sweat, cough, headache, vomiting, chest pain, extreme restlessness and irritability, pneumonitis, possibly bronchopneumonia, loss of weight, anorexia, anemia, wasting, cachexia, dental defects, osteosclerosis, ostemalacia, mottled teeth, calcification of ligaments and sclerosis of the bones.

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

*Skin:* Redness, itching and burning.

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

*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 and pulmonary edema.



More severe exposure may cause pulmonary fibrosis/hypertrophy of bronchial vessels and renal necrosis and/or liver damage.

Chronic: May cause irreversible lung injury, pulmonary fibrosis, damage to the olfactory nerve, fluorosis, asthma attacks and severe bone changes. 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, 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 and rashes.

Chronic: 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 respiratory system, skeleton, kidneys, prostate and blood

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

*Medical Conditions Aggravated by Exposure:* Kidney or respiratory dysfunction, blood or bone 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 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. 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:*

**DANGER: CONTAINS CADMIUM** Use chemical splash goggles and avoid creating dust



*Precaution to be taken in handling:*

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.

Special: Enclose process if possible

Mechanical (General): Not recommended

Other: Engineering and work practices

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Handle in a controlled, inert atmosphere. Minimize exposure of cadmium by local exhaust and enclosing process if/when possible. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Shower and change clothes at the end of work shift (DO NOT wear contaminated clothing home). 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