



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

**SAFETY DATA SHEET**

Identity: Calcium Fluoride

Formula: CaF<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: 78.08

CAS #	OSHA PEL	ACGIH TLV	%
7789-75-5	2.5mg (F)/m <sup>3</sup>	2.5mg (F)/m <sup>3</sup>	0.0-100.0%

**SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS**

Physical States: Solid

Boiling Point: 2500.00 °C

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

Melting Point: 1403°C

Density: 3.18 g/cm<sup>3</sup>

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* White 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, calcium fluoride may emit toxic fumes of fluorine.



SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Acids

*Hazardous Decomposition or Byproducts:* Fumes of fluorine

*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

Calcium compounds: The fumes evolved by burning calcium in air are composed of calcium oxide which is an irritant to the skin, eyes and mucous membrane. Generally speaking, calcium compounds should be considered toxic only when they contain toxic components or as calcium oxide or hydroxide. Calcium compounds are common contaminants. (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. Some enzyme system effects are reported. Irritants to the eyes, skin and mucous membranes. Loss of weight, anorexia, anemia, wasting and cachexia and dental defects are among the common findings in chronic fluorine poisoning. 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:* May cause ulcers of the upper respiratory tract, excessive salivation, vomiting, thirst, sweating, colic and diarrhea. Fibrosis may cause: sclerosis of the bones, calcification of ligaments, mottled teeth, osteosclerosis, ostemalacia, loss of weight, anorexia, anemia, wasting, cachia and dental defects.

*Ingestion:* May cause nausea, vomiting, diarrhea, abdominal burning, cramp-like pain, a stiff spine, calcification of ligaments of the ribs and pelvis.

*Skin:* May cause redness, itching and chemical burns.

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

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: May cause irritation to the respiratory tract and mucous membranes. May cause asthma attacks, excessive salivation, thirst, sweating, vomiting, colic, diarrhea and lung granulomas.

Chronic: May cause fluorosis, pulmonary fibrosis and severe bone changes.

*Ingestion:*

Acute: Moderately toxic by intravenous route. May cause gastrointestinal irritation, nausea, vomiting, diarrhea and cramp-like pains.



Chronic: May affect the circulatory, enzyme and nervous system.

*Skin:*

Acute: May cause irritation, rashes and skin granulomas.

Chronic: No chronic health effects recorded.

*Eye:*

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Target Organs:* May affect the skeleton, kidneys, central nervous system, respiratory system, eyes and skin.

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

*Medical Conditions Aggravated by Exposure:* Can cause or aggravate attacks of asthma.

*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 skin contact.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Good general ventilation is recommended.



## **Super Conductor Materials, Inc.**

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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
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