

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 8th, 2019

SAFETY DATA SHEET

Identity: Zinc fluoride

Formula: ZnF₂

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: 103.37

CAS #	OSHA PEL	ACGIH TLV	%
7783-49-5	2.5mg (F)/m ³	2.5mg (F)/m ³	0.0-100.0%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1500.0°C (2732.0°F)

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

Melting Point: 872.00°C

Vapor Density: 4.95 g/cm³ at 25.0°C

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Soluble/

Soluble in hot acids / Insoluble in alcohols

Appearance and odor: Colorless to white powder or pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Non-Flammable

Explosive Limits: LEL: N/A

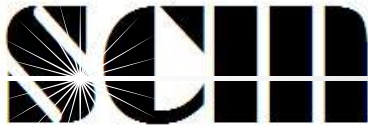
UEL: N/A

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, Zinc fluoride may emit toxic fumes of fluorine and zinc.



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SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility: Strong oxidizing agents.

Hazardous Decomposition or Byproducts: Fumes of fluoride, hydrogen fluoride and zinc.

Hazardous Polymerization: Will not occur.

Conditions to avoid (Hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

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

To the best of our knowledge the chemical, physical and toxicological properties of zinc fluoride have not been thoroughly investigated and recored.

Zinc compounds have variable toxicity, but generally are of low toxicity. Zinc is not inherently a toxic element. However, when heated, it evolves a fume of zinc oxide which, when inhaled fresh, can cause a disease known as "brass founders" "ague," or "brass chills". Zinc oxide dust which is not freshly formed is virtually innocuous. There is no cumulative effect from the inhalation of zinc fumes. (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)

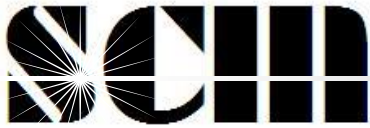
Signs and Symptoms of Overexposure:

Inhalation: May cause a sweet taste, throat dryness, coughing, weakness, generalized aches, chills, fever, nausea, 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 coughing, shortness of breath, sweating, nausea, vomiting, diarrhea, abdominal pain, 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, and watering and chemical burns.



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Health Hazards (Acute and Chronic):

Inhalation:

Acute: Severe irritant and corrosive to the respiratory tract and mucous membrane. May cause brass chills, asthma attacks, and excessive salivation, thirst, and sweating, vomiting, colic, diarrhea and lung granulomas.

Chronic: May cause respiratory tract irritation with nasopharyngitis and laryngitis. May cause fluorosis, pulmonary fibrosis and severe bone changes.

Ingestion:

Acute: May cause gastrointestinal irritation, coughing, shortness of breath, sweating, nausea, vomiting, diarrhea and cramp-like pains.

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

Skin:

Acute: Severe irritant and corrosive. May cause rashes and skin granulomas.

Chronic: Severe irritant and corrosive.

Eye:

Acute: Severe irritant and corrosive.

Chronic: Severe irritant and corrosive.

Target Organ: 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: 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: Do not induce vomiting; seek medical attention immediately.

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 immediately.

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 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.



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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: Local exhaust ventilation may be necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

Special: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

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