



# Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300

Poison Center: (800) 562-8236

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## SAFETY DATA SHEET

Identity: Sodium Fluoride

Formula: NaF

### 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: 41.99

| CAS #     | OSHA PEL                  | ACGIH TLV                 | %            |
|-----------|---------------------------|---------------------------|--------------|
| 7681-49-4 | 2.5 mg (F)/m <sup>3</sup> | 2.5 mg (F)/m <sup>3</sup> | 0.0 – 100.0% |

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1704°C

Vapor Pressure (vs. air or mmHg): 1 mm at 1077.0°C

Melting Point: 993.00°C (1819.4°F)

Density: 2.78 g/cm<sup>3</sup> at 41.0°C

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Soluble

*Appearance and odor:* White powder and 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 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, sodium fluoride may emit toxic fumes of fluorine and sodium oxide.

SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (instability):* None

*Incompatibility (materials to avoid):* Acids, acid fumes, water and alkalis

*Hazardous Decomposition or Byproducts:* Fumes of fluorine and sodium oxide

*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

Sodium compounds have variable toxicity. Sodium ion as such is practically nontoxic. The toxicity of sodium compounds is frequently, though not always, due to the anion involved. (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, and 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:* Fibrosis may cause: sclerosis of the bones, calcification of ligaments, mottled teeth, osteosclerosis, and ostemalacia, loss of weight, anorexia, anemia, wasting, cachia and dental defects.

*Ingestion:* May cause nausea, vomiting, diarrhea, abdominal distress, stupor, weakness, tremors, convulsions, collapse, and dyspnea, respiratory and cardiac failure.

*Skin:* May cause redness, itching, inflammation and burning.

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

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: May cause irritation to the respiratory tract and mucous membrane. Dusts may cause asthma attacks and lung damage such as lung granulomas and pulmonary edema. Large doses may cause immediate defecation, writhing, loss of muscle coordination, labored respiration, sedation, hypotension,



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dyspnea, hyperemia, liver edema and necrosis, portal congestion, pleural effusion and granulomatous peritonitis with serous and hemorrhagic ascites, respiratory and cardiac failure.

Chronic: May cause fluorosis, pulmonary fibrosis, severe bone changes, hyperemia, cellular eosinophilia and vascular granulomata, acute chemical pneumonitis, subacute bronchitis and focal hypertopic emphysema.

### *Ingestion:*

Acute: Poison by ingestion, 5-10 grams can be fatal, May cause gastrointestinal irritation from less than 1 gram.

Chronic: May affect renal and hepatic functions, circulatory, enzyme and nervous system.

### *Skin:*

Acute: Strong irritant and corrosive.

Chronic: May cause dermatitis, skin lesions and ulcerations.

### *Eye:*

Acute: Strong irritant and corrosive.

Chronic: May cause corneal damage.

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

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

*Medical Conditions Aggravated by Exposure:* Pre-existing respiratory, skin and gastrointestinal 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.



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*Precautions:* Sodium fluoride and water forms a corrosive solution. Handle and store in a dry, inert gas such as argon. Aqua solutions of sodium fluoride will corrode glass.

### 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 or below PEL, TLV

Special: Handle in a controlled environment

Mechanical (General): Not recommended

Other: Handle and store in an inert gas such as argon

*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