



# 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: Barium ferrite

Formula: BaFe12O19

### 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/Formula weight: 1111.49

CAS #	OSHA PEL	ACGIH TLV	%
11138-11-7	0.5mg(Ba)/m3	0.5mg(Ba)/m3	0.0 -100.0 %

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

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

Melting Point: 2400.00°F (1315.6°C)

Density: 5.3 g/cm<sup>3</sup>

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* Rust 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:*

Barium ferrite may emit toxic fumes if involved in a fire.



SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (instability):* None

*Incompatibility:* Strong acids and bases

*Hazardous Decomposition or Byproducts:* No data

*Hazardous Polymerization:* Will occur

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? Yes      Other?

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

Iron compounds have varying toxicity. Exposure to iron oxides is potentially a serious risk in all industrial settings. Some iron compounds are suspected carcinogens. In general, ferrous compounds are more toxic than ferric compounds.

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause a red, dry throat. Acute barium poisoning may cause: a slow, hard pulse and elevated blood pressure; excessive salivation; vomiting; colic; violent diarrhea; convulsive tremors; muscular paralysis and paralysis of the central nervous system; strong vasoconstriction, due to the direct barium stimulation of arterial muscles, raises blood pressure. High blood pressure can cause the stomach, intestines and kidneys to hemorrhage. Chronic barium poisoning is similar but less severe than acute barium poisoning. Acute iron poisoning may cause: biphasic shock, a rapid increase in respiration and pulse rate, congestion of blood vessels which may lead to hypotension, pallor and drowsiness. Chronic iron poisoning may cause: hemorrhagic necrosis of the gastrointestinal tract, hepatotoxicity, metabolic acidosis, prolonged blood clotting time, elevation of plasma levels of serotonin and histamine.

*Ingestion:* See inhalation for acute and chronic barium symptoms.

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

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

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: May cause irritation of the upper respiratory tract, dizziness, nausea, vomiting, colic, diarrhea, rapid respiration, high blood pressure, irregular heart action, convulsions, paralysis, acute barium poisoning and possibly acute iron poisoning.

Chronic: May cause chronic barium and iron poisoning.

*Ingestion:*

Acute: May cause poisoning, vomiting, colic, diarrhea, slow irregular pulse, transient hypertension, convulsions, tremors, muscular paralysis and acute barium poisoning.

Chronic: May cause chronic barium poisoning.



*Skin:*

Acute: May cause irritation.  
Chronic: May cause dermatitis.

*Eye:*

Acute: May cause irritation and inflammation.  
Chronic: May cause corneal opacity and blindness.

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

*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:* 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.



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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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