



Super Conductor Materials, Inc.

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Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Barium Sulfide

Formula: BaS

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: 169.40

CAS #	OSHA PEL	ACGIH TLV	%
21109-95-5	0.5mg(Ba)/m3	0.5mg(Ba)/m3	0.0 -100.0 %

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Melting Point: 1200.00°C

Evaporation Rate: N/A

Solubility in water: Decomposes to form hydrogen sulfide

Vapor Pressure (vs. air or mmHg):

Specific Gravity (Water=1): 4.25 at 15.0°C

Flash Point: N/A

Appearance and odor: Heavy grayish-white or pale yellow powder, rotten egg odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: N/A

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: USE: Use a class D or other suitable metal extinguishing agent.

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.



Flammable Properties and Hazards:

- Flammable by spontaneous chemical reaction, air, moisture or acid fumes.
- Oxidizes in dry air.
- When heated to decomposition, barium sulfide may emit toxic fumes of oxides of sulfur.
- Reacts with water, moisture or steam to evolve toxic and flammable hydrogen sulfide.
- May ignite easily in air at room temperature.
- May ignite violently on contact with powerful oxidizing agents.
- May react violently with phosphorus (V) oxide.
- Mixtures with lead dioxide, potassium chlorate or potassium nitrite explode when heated.

Hazardous Combustion Products:

Hydrogen sulfide, toxic metal oxide fume, oxides of sulfur

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): None

Incompatibility: Acids, water, moisture, steam, phosphorus oxide, lead dioxide, potassium chlorate and potassium nitrite

Hazardous Decomposition or Byproducts: Hydrogen sulfide and oxides of sulfides

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Route of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: N/A

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

Sulfides have variable toxicity. The alkaline sulfide (potassium, calcium, ammonium and sodium) are similar in action to the alkalis. They cause softening and irritation of the skin. If ingested, they are corrosive and irritating through the liberation of hydrogen sulfide and free alkali. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: 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.

Ingestion: May cause burning sensation in mouth, chest and stomach, pain in swallowing and stomach cramps. See inhalation for acute and chronic barium poisoning symptoms.

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

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



Health Hazards (Acute and Chronic):

Inhalation:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause irritation to the upper respiratory system, dizziness, nausea, vomiting, colic, diarrhea, rapid respiration, high blood pressure, irregular heart action, convulsions, paralysis and acute barium poisoning.

Chronic: May cause pulmonary edema and chronic barium poisoning.

Ingestion:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause severe irritation to the gastrointestinal tract, vomiting, colic, diarrhea, slow irregular pulse, transient hypertension, convulsions, tremors, muscular paralysis and acute barium poisoning.

Chronic: May cause chronic barium poisoning.

Skin:

Acute: SEVERE IRRITANT AND CORROSIVE to moist skin. May cause softening and irritation.

Chronic: May cause dermatitis.

Eye:

Acute: SEVERE IRRITANT AND CORROSIVE.

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, gastric and skin 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 an inert atmosphere, in a tightly sealed container. Wash thoroughly after handling.

Precautions to be taken in Storing:

Barium sulfide reacts with water, moisture and steam. Handle in a store in a controlled environment and an inert gas, such as argon. Do not store with acids. Store away from oxidant agents.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

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

Special: Handle in a controlled atmosphere

Mechanical (General): Not recommended

Other: Handle 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