



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

**SAFETY DATA SHEET**

Identity: Barium Zirconate

Formula: BaZrO3

**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: 276.53

CAS #	OSHA PEL	ACGIH TLV	%
12009-21-1	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):
Melting Point: 4550.00°F	Specific Gravity: 5.52 gm/cc
Evaporation Rate: N/A	Flash Point: N/A
Solubility in water: Insoluble	

*Appearance and odor:* Light gray buff powder and pieces, no odor.

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA:**

*Method Used:* Flammable solid                      *Explosive Limits:* LEL: N/A UEL: N/A  
*Extinguishing Media:* Use class D or other extinguishing agent for metal fires.

*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 zirconate may emit toxic fumes if involved in a fire.



SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* None recorded

*Hazardous Decomposition or Byproducts:* None recorded

*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

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

Zirconium compounds are not an important industrial poison. Most zirconium compounds in common use are insoluble and considered inert. Pulmonary granuloma in zirconium workers has been reported. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause red, dry throat, coughing, sneezing and difficulty breathing. Acute barium poisoning may cause: a slow, hard pulse and elevated blood pressure; excessive salivation; vomiting; colic; violent diarrhea; convulsive tremors; muscular 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. See inhalation for acute and chronic barium poisoning.

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

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

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: 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 granulomas and chronic barium poisoning.

*Ingestion:*

Acute: May cause 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: May cause irritation.

Chronic: May cause skin granulomas and dermatitis.



# Super Conductor Materials, Inc.

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*Eye:*

Acute: May cause irritation.

Chronic: May cause corneal opacity and blindness.

*Target Organs:* May affect the 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.

*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