



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

SAFETY DATA SHEET

Identity: Barium Titanate

Formula: BaTiO₃

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: 233.19

CAS #	OSHA PEL	ACGIH TLV	%
12047-27-7	N/A	N/A	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: 1620.00°C	Specific Gravity: 5.85gm/cc
Evaporation Rate: N/A	Flash Point: N/A
Solubility in water: Insoluble/ soluble in sulfuric acid and HF	

Appearance and odor: White powder, pieces or pressed parts, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown *Explosive Limits:* LEL: N/A UEL: N/A

Extinguishing Media: USE: Graphite or dry sodium chloride. DO NOT USE: Water

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.



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Unusual Fire and Explosion Hazards: When heated to decomposition, it may emit toxic fumes of barium, titanium, oxides of barium and oxides of titanium. Barium oxide has a slight fire hazard by spontaneous chemical reaction, produces heat on contact with water or steam.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Water, steam

Hazardous Decomposition or Byproducts: Barium oxide, titanium dioxide

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Route of Entry: Inhalation? Yes Ingestion? Yes Skin? Yes Eyes? Yes Other? No

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

Insoluble barium compounds (barium titanate) have low toxicity. However, soluble barium compounds can lead to toxic effects. Soluble barium salts, such as the chloride and sulfide, are poisonous when taken by mouth. Few cases of industrial systemic poisoning have been reported, but one investigator describes a fatal case of poisoning attributed to barium oxide. The same investigator produced paralysis in animals with barium oxide and carbonate. The usual result of exposure to the sulfide, oxide and carbonate is irritation of the eyes, nose and throat, and of the skin, producing dermatitis. The salts mentioned are somewhat caustic. For titanium compounds, these materials are considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused intoxication. The dusts of titanium compounds such as titanium oxide may be placed in the nuisance category. (Sax, Dangerous Properties of Industrial Materials, sixth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause sneezing, coughing and dry throat.

Ingestion: For barium oxide poisoning symptoms may include, severe abdominal pain and vomiting, shortness of breath, rapid pulse, paralysis of the arms/legs and eventually cyanosis and death.

Skin: May cause itching, redness.

Eye: May cause itching, redness and watering.

Health Hazards (Acute and chronic):

Inhalation:

Acute: May be a nuisance dust. May cause sneezing, coughing and irritation of the mucous membrane in the respiratory track. Soluble compounds may cause irritation of the nose and throat.

Chronic: No chronic health effects recorded.

Ingestion:

Acute: No acute health effects recorded.

Chronic: Barium oxide may cause poisoning.



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Skin:

Acute: May cause itching, irritation.

Chronic: May cause dermatitis.

Eye:

Acute: May cause itching, irritation.

Chronic: No chronic health effects recorded.

Target Organs: Soluble compounds may effect the heart, central nervous system, skin, respiratory system and eyes.

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

Medical Conditions Aggravated by Exposure: Pre-existing respiratory (lung) 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.

-Percussions to be taken in storing: Store in tightly closed containers in a cool, dry place. Wash hands and face through after handling and eating.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

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

Ventilation:

Local Exhaust: If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants to low exposure levels.

Mechanical (General): Good general ventilation 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
