STANFORD ADVANCED MATERIALS

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Stanford Advanced Materials
*We not only sell products, we provide satisfactions.*
72 Fairbanks Suite 100, Irvine, CA 92618, USA
**Tel:** (949) 407-8904 **Fax:** (949) 812-6690

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# *Material Safety Data Sheet*

Identity: Barium Zirconate  Formula: BaZr03

## SECTION I - GENERAL INFORMATION

Manufacturer: Stanford Advanced Materials (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM 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: 273.53

| CAS# | OSHA PEL | ACGIH TLV | % |
|---|---|---|---|
| 12009-21-1 | N/E | N/E | 100 |

## SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States:

Boiling Point: N/D
Melting Point: 2500.0 ℃
Evaporation Rate: N/A
Solubility in water: Insoluble

Vapor Pressure: (vs. air or mmHg): N/A
Density: 5.52 g/cm$^3$
Flash Point: N/A

*Appearance and odor*: White to off-white crystalline solid, odorless.

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used:

*Extinguishing Media*: Use suitable extinguishing agent for surrounding material and type of fire.

*Special Fire Fighting Procedures:*

Non-combustible. If involved in a fire, use water, carbon dioxide, dry chemical extinguishing agents, dry sand or dry ground dolomite. 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*: N/E

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## SECTION V - REACTIVITY DATA

*Stability*: Stable
*Conditions to Avoid (stability)*: None known
*Incompatibility-Materials to avoid*: None known

*Hazardous Decomposition or Byproducts:* Will not occur.
*Hazardous Polymerization*: Will not occur.
Conditions to avoid (hazardous/polymerization): None known

## SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation Yes Skin Yes Eyes Yes Ingestions Yes

*Health Hazards (Acute and Chronic):*
*Inhalation:*
*Acute:* Produces interstitial pneumonitis on inhalation.
*Chronic*: None known.

*Ingestion:*
*Acute:* Soluble barium impurities can cause severe abdominal pain with vomiting, dyspnoea, rapid pulse, paralysis of the arm and leg, and eventually cyanosis and death.
*Chronic:* None known

*Skin:*
*Acute:* May cause irritation.
*Chronic:* None known

*Eye:*
*Acute:* May cause irritation.
*Chronic:* None known

*Target Organs:*
*Carcinogenicity:* NTP? No IARC Monographs? No OSHA Regulated? No
*Medical Conditions Aggravated by Exposure:*
None known. One should obtain immediate medical attention if exposed.

*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, was 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.

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## 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 local, state and federal regulations.

*Hazard Label Information:*
Store in a cool, dry area and in tightly sealed container. Wash thoroughly after handling.

## SECTION VII I– CONTROL MEASURES

***Protective Equipment Summary – Hazard Label Information***
*NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.*

***Ventilation Requirements:***
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 us tobacco or food in work are. Wash thoroughly before eating and 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