

# SAFETY DATA SHEET

## 1. Identification of the product

GHS product identifier Beryllium Oxide Ceramic Product

### Other means of identification

Common name(s), synonym(s) Beryllium Oxide, Beryllia

Catalog No. BC0970

### Recommended use of the chemical and restrictions on use

Recommended use Manufacture of computer, electronic and optical products, electrical equipment

Recommended restrictions Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Casting, grinding or polishing of beryllium-containing alloys by artists;  
Casting, grinding or polishing of beryllium-containing alloys for dental crowns, appliances or prosthetics;  
Casting, grinding or polishing of beryllium-containing alloys for jewelry.  
Consumer uses: Private households (= general public = consumers)

### Suppliers details

Company name Stanford Advanced Materials  
Address 23661 Birtcher Dr. Lake Forest,  
CA 92630 USA

Telephone +1 (949) 407-8904  
Website www.samaterials.com  
E-mail sales@samaterials.com

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## 2. Hazard identification

### Classification of the substance or mixture

Physical hazards Not classified.

Health hazards Carcinogenicity Category 1  
Specific target organ toxicity, repeated exposure Category 1 (Respiratory system)

Environmental hazards Not classified.

### GHS label elements, including precautionary statements



Signal word Danger

### Hazard statement

H350 May cause cancer by inhalation.  
H372 Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

### Precautionary statement

#### Prevention

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/fume.

P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P285 In case of inadequate ventilation wear respiratory protection.

**Response**

P302 + P350 If on skin: Wash with plenty of water.  
P304 + P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P308 + P311 If exposed or concerned: Call a poison center/doctor.  
P363 Wash contaminated clothing before reuse.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards which do not result in classification**

None known.

**Supplemental information**

Exposure to the elements listed in Section 3 by inhalation, ingestion, and skin contact can occur when melting, casting, gross handling, pickling, chemical cleaning, heat treating, abrasive cutting, welding, grinding, sanding, polishing, milling, crushing, or otherwise heating or abrading the surface of this material in a manner which generates particulate.

For further information, please contact SAM at +1 (949) 407-8904

**3. Composition/information on ingredients**

**Substances**

Chemical identity	Common name(s), synonym(s)	CAS number and other unique identifiers	Concentration
Beryllium Oxide Ceramic	Beryllium Oxide, Beryllia		100

**4. First-aid measures**

**Description of necessary first-aid measures**

**Inhalation** If symptoms develop move victim to fresh air. For breathing difficulties, oxygen may be necessary. Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

**Skin contact** Take off contaminated clothing and wash before reuse. Thoroughly wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if symptoms persist.

**Ingestion** If swallowed, seek medical advice immediately and show this container or label. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Most important symptoms/effects, acute and delayed**

The beryllium oxide in the product is not known to cause acute health effects. Inhaling particulate containing beryllium oxide can cause a serious, chronic lung disease called Chronic Beryllium Disease (CBD) in some individuals. Inhaling particulate containing beryllium oxide can cause a serious, chronic lung disease called Chronic Beryllium Disease (CBD) in some individuals.

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**Indication of immediate medical attention and special treatment needed**

Treatment of Chronic Beryllium Disease: There is no known treatment which will cure chronic beryllium disease. Prednisone or other corticosteroids are the most specific treatment currently available. They are directed at suppressing the immunological reaction and can be effective in diminishing signs and symptoms of chronic beryllium disease. In cases where steroid therapy has had only partial or minimal effectiveness, other immunosuppressive agents, such as cyclophosphamide, cyclosporine, or methotrexate, have been used. In view of the potential side effects of all the immunosuppressive medications, including steroids such as prednisone, they should be used only under the direct care of a physician. Other treatment, such as oxygen, inhaled steroids or bronchodilators, may be prescribed by some physicians and can be effective in selected cases. In general, treatment is reserved for cases with significant symptoms and/or significant loss of lung function. The decision about when and with what medication to treat is a judgment situation for individual physicians.

In their 2014 official statement on the Diagnosis and Management of Beryllium Sensitivity and Chronic Beryllium Disease, the American Thoracic Society states that "it seems prudent for workers with BeS to avoid all future occupational exposure to beryllium."

**General information**

If exposed or concerned: get medical attention/advice. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. As supplied, there is no immediate medical risk with beryllium oxide ceramic products in article form. First aid measures provided are related to particulate containing beryllium oxide.

**5. Fire-fighting measures**

**Suitable extinguishing media**

The product is non-combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

Do not use water to extinguish fires around operations involving molten metal due to the potential for steam explosions.

**Specific hazards arising from the chemical**

Not applicable.

**Special protective actions for firefighters**

Firefighters should wear full protective clothing including self contained breathing apparatus. Wear suitable protective equipment.

**Fire fighting equipment/instructions**

Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

**Specific methods**

Pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the particulate released during or after a fire.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

In solid form this material poses no special clean-up problems. Wear appropriate protective equipment and clothing during clean-up.

**For emergency responders**

Not available.

**Environmental precautions**

Avoid release to the environment. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**Methods and materials for containment and cleaning up**

Clean up in accordance with all applicable regulations.

**Other issues relating to spills and releases**

Clean up in accordance with all applicable regulations.

**7. Handling and storage**

**Precautions to ensure safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust/fume. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Wash thoroughly after handling. When using, do not eat, drink or smoke. Contaminated work clothing must not be allowed out of the workplace.

**Conditions for safe storage, including any incompatibilities**

Keep locked-up. Avoid contact with acids and alkalis. Avoid contact with oxidizing agents.

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## 8. Exposure controls/personal protection

### Control parameters

**Occupational exposure limits** No exposure limits noted for ingredient(s).

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Control banding approach** Not available.

**Appropriate engineering controls** VENTILATION: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Ensure adequate ventilation, especially in confined areas.

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems.

WET METHODS: Machining operations are usually performed under a liquid lubricant/coolant flood which assists in reducing airborne particulate. However, the cycling through of machine coolant containing finely divided particulate in suspension can result in the concentration building to a point where the particulate may become airborne during use. Certain processes such as sanding and grinding may require complete hooded containment and local exhaust ventilation. Prevent coolant from splashing onto floor areas, external structures or operators' clothing. Utilize a coolant filtering system to remove particulate from the coolant.

WORK PRACTICES: Develop work practices and procedures that prevent particulate from coming in contact with worker skin, hair, or personal clothing. If work practices and/or procedures are ineffective in controlling airborne exposure or visual particulate from deposition on skin, hair, or clothing, provide appropriate cleaning/washing facilities. Procedures should be written that clearly communicate the facility's requirements for protective clothing and personal hygiene. These clothing and personal hygiene requirements help keep particulate from being spread to non-production areas or from being taken home by the worker. Never use compressed air to clean work clothing or other surfaces.

Fabrication processes may leave a residue of particulate on the surface of parts, products or equipment that could result in employee exposure during subsequent material handling activities. As necessary, clean loose particulate from parts between processing steps. As a standard hygiene practice, wash hands before eating or smoking.

HOUSEKEEPING: Use vacuum and wet cleaning methods for particulate removal from surfaces. Be certain to de-energize electrical systems, as necessary, before beginning wet cleaning. Use vacuum cleaners with high efficiency particulate air (HEPA). Do not use compressed air, brooms, or conventional vacuum cleaners to remove particulate from surfaces as this activity can result in elevated exposures to airborne particulate. Follow the manufacturer's instructions when performing maintenance on HEPA filtered vacuums used to clean hazardous materials.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

### Skin protection

**Hand protection** Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

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<b>Other</b>	Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities. Skin contact with this material may cause, in some sensitive individuals, an allergic dermal response. Particulate that becomes lodged under the skin has the potential to induce sensitization and skin lesions.
<b>Respiratory protection</b>	When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.
<b>Thermal hazards</b>	Not applicable.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid Various shapes.
<b>Color</b>	White.
<b>Odor</b>	Not applicable.
<b>Odor threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Explosive limit - lower (%)</b>	Not applicable.
<b>Explosive limit - upper (%)</b>	Not applicable.
<b>Vapor pressure</b>	6.67 kPa at 25°C estimated
<b>Vapor density</b>	Not applicable.
<b>Relative density</b>	Not applicable.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not applicable.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Other information</b>	
<b>Specific gravity</b>	1.85 estimated

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
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<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid dust formation. Contact with acids. Contact with alkalis.
<b>Incompatible materials</b>	Strong acids, alkalies and oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause damage to organs (respiratory system) through prolonged or repeated exposure.
<b>Skin contact</b>	Not likely, due to the form of the product.
<b>Eye contact</b>	Not likely, due to the form of the product.
<b>Ingestion</b>	Not likely, due to the form of the product.

**Symptoms** Respiratory disorder.

### Information on toxicological effects

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	Not likely, due to the form of the product.
<b>Serious eye damage/eye irritation</b>	Not likely, due to the form of the product.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	May cause damage to organs (respiratory system) through prolonged or repeated exposure.
<b>Skin sensitization</b>	Not a skin sensitizer.
<b>Germ cell mutagenicity</b>	Due to lack of data the classification is not possible.
<b>Carcinogenicity</b>	Cancer hazard.
<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
<b>Aspiration hazard</b>	Due to lack of data the classification is not possible.
<b>Other information</b>	Symptoms may be delayed.

## 12. Ecological information

<b>Ecotoxicity</b>	No ecotoxicity data noted for the ingredient(s).
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	Not available.
<b>Other adverse effects</b>	Not available.

## 13. Disposal considerations

### Disposal methods

<b>Disposal instructions</b>	Material should be recycled if possible. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
<b>Local disposal regulations</b>	Not available.
<b>Waste from residues / unused products</b>	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

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**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### ANTT

Not regulated as dangerous goods.

### DOT

Not regulated as dangerous goods.

### SCT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

### National regulations

**Colombia. Chemical Precursors (Law 67 of 1993, Tables I and II)**

Not regulated.

**Ecuador. Precursors (Narcotic and Psychotropic Substances Law, Annex IV)**

Not regulated.

### International regulations

**Montreal Protocol**

Not applicable.

**Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Kyoto protocol**

Not applicable.

**Basel Convention**

Not applicable.

## 16. Other information

**Revision date** 29-04-2024  
**List of abbreviations** Not available.

### Disclaimer

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### Revision information

Hazard identification: Prevention  
Exposure controls/personal protection: Appropriate engineering controls  
Other information: Further information