Heegermaterials

SAFETY DATA SHEET

1. Identification

Product identifier	Beryllium Oxide Ceramic Product
Other means of identification	
SDS number	C10
Synonyms	Beryllium Oxide, Beryllia, BeO, Berlox, Berlon

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Heeger Materials Inc.
Address	230 Steele St Denver, CO 80206 United States
Telephone	1-833-222-8587
E-mail	sales@heegermaterials.com
Emergency phone number	800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 1
	Specific target organ toxicity, repeated exposure	Category 1 (Respiratory system)
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label Elements

Signal word	**Danger**
Hazard statement	May cause cancer by inhalation. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs (respiratory system) through prolonged or repeated exposure.
Precautionary statement	
Prevention	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. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
Response	If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	For further information, please contact the Safety Department at 973-248-8080.

3. Composition/Information on Ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Beryllium Oxide	Beryllium Oxide Beryllia BeO Berlox Berlon	1304-56-9	100

4. 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.

Indication of immediate medical attention and special treatment needed.

General Information
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. These latter agents remain investigational. Further, 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. In general, these medications should be reserved for cases with significant symptoms and/or significant loss of lung function. Other symptomatic treatment, such as oxygen, inhaled steroids or bronchodilators, may be prescribed by some physicians and can be effective in selected cases.

The decision about when and with what medication to treat is a judgment situation for individual physicians. For the most part, treatment is reserved for those persons with symptoms and measurable loss of lung function. The value of starting oral steroid treatment, before signs or symptoms are evident, remains a medically unresolved issue.

The effects of continued low exposure to beryllium are unknown for individuals who are sensitized to beryllium or who have a diagnosis of chronic beryllium disease. It is generally recommended that persons who are sensitized to beryllium or who have CBD terminate their occupational exposure to beryllium.

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 equipment and precautions 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	In solid form this material poses no special clean-up problems. Wear appropriate protective equipment and clothing during clean-up.
Methods and materials for containment and cleaning up	Clean up in accordance with all applicable regulations.
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.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been readand understood. Minimize dust generation and accumulation. Do not breathedust/fume. Wearprotective 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 lock-up. Avoid contact with acids or alkalis. Avoid contact with oxidizing agents

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-2 (29 CFR 1910.1000)

Material	Type	Value
Beryllium Oxide Ceramic Product	Ceiling	0.005 mg/m3
	TWA	0.002 mg/m3

Components	Type	Value
Beryllium Oxide (CAS1304-56-9)	Ceiling	0.005 mg/m3
	TWA	0.002 mg/m3

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
Beryllium Oxide Ceramic Product	TWA	0.00005 mg/m3	Inhalable fraction.

Components	Type	Value	Form
Beryllium Oxide (CAS1304-56-9)	TWA	0.00005 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Beryllium Oxide Ceramic Product	Ceiling	0.0005 mg/m3

Components	Type	Value
Beryllium Oxide (CAS 1304-56-9)	Ceiling	0.0005 mg/m3

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

Control parameters

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 buildingto 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 areineffective in controlling airborne exposure or visual particulate from deposition on skin, hair, orclothing, provide appropriate cleaning/washing facilities. Procedures should be written thatclearly communicate the facility's requirements for protective clothing and personal hygiene.

Theseclothing 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 cleanwork clothing or other surfaces.

Fabrication processes may leave a residue of particulate on the surface of parts, products

orequipment that could result in employee exposure during subsequent material handlingactivities.As necessary, clean loose particulate from parts between processing steps. As a standardhygiene 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 particulate such as melting, casting, machining, grinding, welding and powder handling.

Skin protection Hand protection	Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cutsand skin abrasions during handling.
Other	Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities such as machining, furnace rebuilding, air cleaningequipment filter changes, maintenance, furnace tending, etc. Skin contact with this material maycause, in some sensitive individuals, an allergic dermal response. Particulate that becomes lodgedunder the skin has the potential to induce sensitization and skin lesions.
Respiratory protection	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 theface. Use pressure-demand airline respirators when performing jobs with high potential exposuressuch as changing filters in a baghouse air cleaning device.
Thermal hazards	Not applicable.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Appearance	
Physical state	Solid.
Form	Various shapes.
Color	White.
Odor	Not applicable.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	4586 °F (2530 °C)
Initial boiling point and boiling range	7052 °F (3900 °C)

Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not applicable.
Flammability limit – upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	6.67 kPa at 25°C estimated
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Not applicable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Density	3.01 g/cm3 estimated
Molecular formula	Be-O
Molecular weight	25.01 g/mol
Specific gravity	1.85 estimated

10. Stability and Reactivity

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

11. Toxicological Information

Information on likely routes of exposure

Inhalation May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs (respiratory system) through prolonged or repeated exposure.

Skin contact	May cause an allergic skin reaction.
Eye contact	Harmful in contact with eyes.
Ingestion	Not likely, due to the form of the product.
Symptoms related to the physical, chemical and toxicological characteristics	Respiratory disorder.
Information on toxicological effects	
Acute toxicity	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction.
Skin corrosion/irritation	Not likely, due to the form of the product.
Serious eye damage/eye irritation	Harmful in contact with eyes.
Respiratory or skin sensitization	
ACGIH Sensitization	
Beryllium Oxide (CAS 1304-56-9)	Respiratory sensitization
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	Cancer hazard.

IARC Monographs. Overall Evaluation of Carcinogenicity

Beryllium Oxide (CAS 1304-56-9)	1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Beryllium Oxide (CAS 1304-56-9)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Specific target organ toxicity - repeated exposure	May cause damage to organs (respiratory system) through prolonged or repeated exposure byinhalation.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Hazardous by OSHA criteria. May cause damage to organs through prolonged or repeatedexposure.
Further information	Symptoms may be delayed.

12. Ecological Information

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

13. Disposal Considerations

Disposal instructions	Material should be recycled if possible. Disposal recommendations are based on material assupplied. Disposal must be in accordance with current applicable laws and regulations, andmaterial characteristics at time of disposal. When this product as supplied is to be discarded aswaste, it does not meet the definition of a RCRA waste under 40 CFR 261.
Hazardous waste code	Not regulated.
Waste from residues / unused products	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).

14. Transport Information

DOT
Not regulated as dangerous goods. IATA
Not regulated as dangerous goods. IMDG
Not regulated as dangerous goods.
15. Regulatory information
US federal regulations
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. All components are on the U.S. EPA TSCA Inventory List.
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Beryllium Oxide (CAS 1304-56-9) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Beryllium Oxide	1304-56-9	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Beryllium Oxide (CAS 1304-56-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA)	Priority pollutant
Section 112(r) (40 CFR 68.130)	Toxic pollutant
Safe Drinking Water Act (SDWA)	0.004 mg/l
	0.004 mg/l

US state regulations

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - New Jersey RTK - Substances: Listed substance

Beryllium Oxide (CAS 1304-56-9)

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Beryllium Oxide (CAS 1304-56-9)

US. California Controlled Substances.

CA Department of Justice (California Health and Safety Code Section 11100)Not listed.

Exposure controls/personal protection

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Beryllium Oxide (CAS 1304-56-9)

US. Massachusetts RTK - Substance List

Beryllium Oxide (CAS 1304-56-9)

US. New Jersey Worker and Community Right-to-Know Act

Beryllium Oxide (CAS 1304-56-9)

US. Pennsylvania RTK - Hazardous Substances

Beryllium Oxide (CAS 1304-56-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Beryllium Oxide (CAS 1304-56-9) US. Rhode Island RTK

Beryllium Oxide (CAS 1304-56-9) US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Beryllium Oxide (CAS 1304-56-9) Listed: October 1, 1987

16. Other Information, Including Date of Preparation or Last Revision

Issue date	10-15-2024
Version #	01
Further information	Transportation Emergency
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