



SAFETY DATA SHEET

1. Identification

Product identifier	Metalized Beryllia Ceramic
Other means of identification	C11
SDS number	
Synonyms	Beryllium Oxide, Beryllia Berlox, Berlon
Manufacturer Information	
Manufacturer	
Company name	American Beryllia Incorporated
Address	16 First Avenue Haskell, New Jersey 07420 United States
Telephone	(973) 248-8080
Website	www.americanberyllia.com
E-mail	info@americanberyllia.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.	

Label elements



www.AmericanBeryllia.com

American Beryllia Inc
16 First Avenue
Haskell NJ 07420
973 248-8080
973 248-8013 fax

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	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. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing.
Response	If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. If experiencing respiratory symptoms: Call a poison center/doctor.
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.
OSHA defined hazard	Not Defined
Supplemental information	For further information, please contact the Safety Department at (973) 248-8080

3. Composition/Information on Ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Beryllium Oxide	Beryllium Oxide Beryllia Berlox Berlon	1304-56-9	80 - 97
Molybdenum		7439-98-7	0 - 10
Nickel		7440-02-0	0 - 10
Silica		14808-60-7	0 - 4
Manganese		7439-96-5	0 - 2
Titanium		7440-32-6	0 - 2
Tungsten		7440-33-7	0 - 2
Gold		7440-57-5	0 - 1

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

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 products in article form. First aid measures provided are related to particulate containing beryllium.

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.
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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 been read have 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.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
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Manganese (CAS 7439-96-5)	Ceiling	5 mg/m3	Fume.
Molybdenum (CAS 7439-98-7)	PEL	15 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	PEL	1 mg/m3	
US. OSHA Table Z-2 (29 CFR 1910.1000)	Type	Value	
Material			
Metallized Beryllia Ceramic	Ceiling	0.005 mg/m3	
	TWA	0.002 mg/m3	
Components	Type	Value	
Beryllium Oxide (CAS 1304-56-9)	Ceiling	0.005 mg/m3	
	TWA	0.002 mg/m3	
US. OSHA Table Z-3 (29 CFR 1910.1000)	Type	Value	Form
Components			
Silica (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
US. ACGIH Threshold Limit Values	Type	Value	Form
Material			
Metallized Beryllia Ceramic	TWA	0.00005 mg/m3	Inhalable fraction.
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	TWA	0.00005 mg/m3	Inhalable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.
Silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Tungsten (CAS 7440-33-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	
US. NIOSH: Pocket Guide to Chemical Hazards	Type	Value	
Material			
Metallized Beryllia Ceramic	Ceiling	0.0005 mg/m3	
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	Ceiling	0.0005 mg/m3	
Manganese (CAS 7439-96-5)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
Nickel (CAS 7440-02-0)	TWA	0.015 mg/m3	
Silica (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Tungsten (CAS 7440-33-7)	STEL	10 mg/m ³
	TWA	5 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient.

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 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 particulate such as melting, casting, machining, grinding, welding and powder handling.

Skin protection Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling. Protective over garments or work clothing must be worn by persons who may become contaminated with particulate during activities such as machining, furnace rebuilding, air cleaning equipment filter changes, maintenance, furnace tending, etc. 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.

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 the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such 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

Grayish- white

Odor

Not applicable.

Odor threshold

Not applicable.

pH

Not applicable.

Melting point/freezing point

2651 °F (1455 °C) estimated

Initial boiling point and boiling range

4946 °F (2730 °C) estimated

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

58.77 hPa 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	3.95 g/cm ³ estimated
Specific gravity	3.95 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, alkalis 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	Toxic if swallowed.
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.
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
Silica (CAS 14808-60-7)	1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Beryllium Oxide (CAS 1304-56-9)	Known To Be Human Carcinogen.
Nickel (CAS 7440-02-0)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Silica (CAS 14808-60-7)	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 by inhalation.
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 repeated exposure.
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 as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.
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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).
Contaminated	Empty containers should be taken to an approved waste handling site for recycling or disposal.

packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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 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.

Nickel (CAS 7440-02-0) 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 No
chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Beryllium Oxide	1304-56-9	80 - 97
Nickel	7440-02-0	0 - 10
Manganese	7439-96-5	0 - 2

Other federal regulations

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

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Nickel (CAS 7440-02-0)

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

Not regulated.

Safe Drinking Water Act Not regulated.
(SDWA)

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)

Manganese (CAS 7439-96-5)

Molybdenum (CAS 7439-98-7) Nickel (CAS 7440-02-0)

Silica (CAS 14808-60-7)

Titanium (CAS 7440-32-6)

Tungsten (CAS 7440-33-7)

US - Pennsylvania RTK - Hazardous Substances: All compounds of this substance are considered environmental hazards
Manganese (CAS 7439-96-5) Nickel (CAS 7440-02-0)

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Beryllium Oxide (CAS 1304-56-9) Nickel (CAS 7440-02-0)

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

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

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Molybdenum (CAS 7439-98-7)

Nickel (CAS 7440-02-0)

Silica (CAS 14808-60-7)

Tungsten (CAS 7440-33-7)

US. Massachusetts RTK - Substance List

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Molybdenum (CAS 7439-98-7)

Nickel (CAS 7440-02-0)

Silica (CAS 14808-60-7)

Tungsten (CAS 7440-33-7)

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

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Nickel (CAS 7440-02-0)

US. Pennsylvania RTK - Hazardous Substances

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Molybdenum (CAS 7439-98-7)

Nickel (CAS 7440-02-0)

Silica (CAS 14808-60-7)

Tungsten (CAS 7440-33-7)

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

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Molybdenum (CAS 7439-98-7)

Nickel (CAS 7440-02-0)

Silica (CAS 14808-60-7)

Tungsten (CAS 7440-33-7)

US. Rhode Island RTK

Beryllium Oxide (CAS 1304-56-9)

Manganese (CAS 7439-96-5)

Nickel (CAS 7440-02-0)

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

Beryllium Oxide (CAS 1304-56-9)

Listed: October 1, 1987

Nickel (CAS 7440-02-0)

Listed: October 1, 1989

Silica (CAS 14808-60-7)

Listed: October 1, 1988

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

Issue date 10-18-2015

Version # 01

Further information Transportation Emergency

Call Chemtrec at:

Domestic: 800.424.9300

International: 703.527.3887

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