



1. Identification

Product identifier	Metallized Beryllia Ceramic
Other means of identification	
SDS number	C11
Synonyms	Beryllium Oxide, Beryllia, Thermalox® 995, BW 1000®, BW3250®, Thermalox® CR
Recommended use	Manufacture of computer, electronic and optical products, electrical equipment
Recommended restrictions	Professional uses: Public domain (administration, education, entertainment, services, craftsmen) Consumer uses: Private households (= general public = consumers)

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Materion Brush Inc.
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States
Telephone	+1.216.383.4019
Website	www.materion.com
E-mail	ehs@materion.com
Contact person	Theodore L. Knudson
Emergency phone number	+1.216.383.4019
Supplier	Materion Brush Inc. 6070 Parkland Boulevard Mayfield Heights, OH 44124 US +1.216.486.4200

2. Hazard(s) identification

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

Label elements



Signal word	Danger
Hazard statement	Harmful if swallowed. May cause an allergic skin reaction. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation. May damage fertility. May damage the unborn child. Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should 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 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. Take off contaminated clothing and wash it before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container (in accordance with related regulations). Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Beryllium Oxide		1304-56-9	80 - 97
Molybdenum, Elemental		7439-98-7	0 - 10
Nickel, Elemental		7440-02-0	0 - 10
Silica, Crystalline, Quartz		14808-60-7	0 - 4
Manganese, Elemental		7439-96-5	0 - 2
Titanium		7440-32-6	0 - 2
Tungsten, Elemental		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

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.

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 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.

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 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.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
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, Elemental (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Tungsten, Elemental (CAS 7440-33-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Material	Type	Value	Form
Metallized Beryllia Ceramic	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Manganese, Elemental (CAS 7439-96-5)	TWA	0.2 mg/m3	
Nickel, Elemental (CAS 7440-02-0)	TWA	1.5 mg/m3	
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.
Tungsten, Elemental (CAS 7440-33-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Material	Type	Value	Form
Metallized Beryllia Ceramic	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Manganese, Elemental (CAS 7439-96-5)	TWA	0.2 mg/m3	
Molybdenum, Elemental (CAS 7439-98-7)	TWA	3 mg/m3	Respirable.
		10 mg/m3	Inhalable
Nickel, Elemental (CAS 7440-02-0)	TWA	0.05 mg/m3	
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Tungsten, Elemental (CAS 7440-33-7)	STEL	10 mg/m ³	
	TWA	5 mg/m ³	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	TWA	0.00005 mg/m ³	Inhalable fraction.
Nickel, Elemental (CAS 7440-02-0)	TWA	1.5 mg/m ³	Inhalable fraction.
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.
Tungsten, Elemental (CAS 7440-33-7)	STEL	10 mg/m ³	
	TWA	5 mg/m ³	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Material	Type	Value	Form
Metallized Beryllia Ceramic	STEL	0.01 mg/m ³	
	TWA	0.002 mg/m ³	
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	STEL	0.01 mg/m ³	
	TWA	0.002 mg/m ³	
Manganese, Elemental (CAS 7439-96-5)	TWA	0.00005 mg/m ³	Inhalable fraction.
		0.2 mg/m ³	
Molybdenum, Elemental (CAS 7439-98-7)	TWA	10 mg/m ³	Inhalable fraction.
Nickel, Elemental (CAS 7440-02-0)	TWA	1 mg/m ³	Inhalable
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.
Tungsten, Elemental (CAS 7440-33-7)	STEL	10 mg/m ³	
	TWA	5 mg/m ³	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Material	Type	Value	Form
Metallized Beryllia Ceramic	TWA	0.00015 mg/m ³	
Components	Type	Value	Form
Beryllium Oxide (CAS 1304-56-9)	TWA	0.00015 mg/m ³	
Manganese, Elemental (CAS 7439-96-5)	STEL	3 mg/m ³	Fume.
	TWA	5 mg/m ³	Dust.
Molybdenum, Elemental (CAS 7439-98-7)	TWA	1 mg/m ³	Fume.
		10 mg/m ³	
Nickel, Elemental (CAS 7440-02-0)	TWA	1 mg/m ³	
Silica, Crystalline, Quartz (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable dust.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Tungsten, Elemental (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(s).

Exposure guidelines**Canada - British Columbia OELs: Skin designation**

Beryllium Oxide (CAS 1304-56-9) Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Beryllium Oxide (CAS 1304-56-9) Can be absorbed through the skin.

Appropriate engineering controls 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.

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.

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.

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.

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.

Other

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. 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.

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)

Initial boiling point and boiling range

4946 °F (2730 °C)

Flash point

Not applicable.

Evaporation rate

Not applicable.

Flammability (solid, gas)

Not available.

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

0.03 hPa

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 estimated
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	4.55

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	No dangerous reaction known under conditions of normal use. 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	Not likely, due to the form of the product.
Ingestion	Not likely, due to the form of the product.

Symptoms related to the physical, chemical and toxicological characteristics	Respiratory disorder.
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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
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Canada - Alberta OELs: Irritant

Tungsten, Elemental (CAS 7440-33-7)	Irritant
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Canada - British Columbia OELs: Respiratory or skin sensitiser

Beryllium Oxide (CAS 1304-56-9)	Capable of causing respiratory, dermal or conjunctival sensitization.
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Canada - Manitoba OELs Hazard: Respiratory sensitization

Beryllium Oxide (CAS 1304-56-9)	Respiratory sensitization
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Canada - Quebec OELs: Sensitizer

Beryllium Oxide (CAS 1304-56-9)	Sensitizer.
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Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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Skin sensitization	May cause an allergic skin reaction.
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Germ cell mutagenicity	Due to lack of data the classification is not possible.
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Carcinogenicity	Cancer hazard.
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Canada - Alberta OELs: Carcinogen category

Beryllium Oxide (CAS 1304-56-9) Confirmed human carcinogen.
Silica, Crystalline, Quartz (CAS 14808-60-7) Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Beryllium Oxide (CAS 1304-56-9) Confirmed human carcinogen.
Nickel, Elemental (CAS 7440-02-0) Not suspected as a human carcinogen.
Silica, Crystalline, Quartz (CAS 14808-60-7) Suspected human carcinogen.

Canada - Quebec OELs: Carcinogen category

Beryllium Oxide (CAS 1304-56-9) Detected carcinogenic effect in humans.
Silica, Crystalline, Quartz (CAS 14808-60-7) Suspected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Beryllium Oxide (CAS 1304-56-9) 1 Carcinogenic to humans.
Nickel, Elemental (CAS 7440-02-0) 2B Possibly carcinogenic to humans.
Silica, Crystalline, Quartz (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, Elemental (CAS 7440-02-0) Known To Be Human Carcinogen.
Reasonably Anticipated to be a Human Carcinogen.
Silica, Crystalline, Quartz (CAS 14808-60-7) Known To Be Human Carcinogen.

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 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.
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 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

TDG
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

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	02-27-2017
Version #	01
Further information	Transportation Emergency Call Chemtrec at: Domestic: 800.424.9300 International: 703.527.3887

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Information for this safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of WHMIS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this form. If user requires independent information on ingredients in this or any other material, we recommend contact with the Canadian Centre for Occupational Health and Safety (CCOHS) in Hamilton, Ontario (1-800-263-8466) or CSST in Montreal, Quebec (514-873-3990).

Revision information	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Disclosure Overrides Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information GHS: Qualifiers
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