



SAFETY DATA SHEET

MATERION

Section 1: Identification of the chemical and of the supplier

Product identifier Copper Beryllium Master Alloy

Other means of identification

SDS number A17

Synonyms Copper Beryllium Alloy

Recommended use of the chemical and restrictions on use

Recommended use

Industrial uses: Uses of substances as such or in preparations at industrial sites
Offshore industries
Manufacture of basic metals, including alloys
Manufacture of fabricated metal products, except machinery and equipment
Manufacture of computer, electronic and optical products, electrical equipment
General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
Electricity, steam, gas water supply and sewage treatment
Scientific research and development
Other: Manufacture of medical and defense equipment

Recommended restrictions

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

Details of principal suppliers

Manufacturer

Company name Materion Brush Inc.
Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States
Telephone Not available.
Website www.materion.com
e-mail ehs@materion.com
Contact person Theodore Knudson
Emergency phone number Not available.

Section 2: Hazard identification

Physical hazards Not classified.

Health hazards

Acute toxicity (oral)	Category 3
Acute toxicity (inhalation)	Category 2
Skin sensitisation	Category 1
Carcinogenicity	Category 1
Specific target organ toxicity - single exposure	Category 2
Specific target organ toxicity - repeated exposure	Category 2 (Respiratory system)

Environmental hazards Not classified.

Label elements



Signal word Danger

Hazard statement Toxic if swallowed. May cause allergic skin reaction. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause cancer by inhalation. 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. 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 inhaled: Remove person to fresh air and keep comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention. 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.
Other hazards which do not result in classification	None known.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

Section 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Beryllium		7440-41-7	3.5 - < 4.5
Other components below reportable levels			90 - 100

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

Section 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	May cause allergic skin reaction. May cause allergic respiratory reaction. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	<p>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.</p> <p>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.</p> <p>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.</p>
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.

Section 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.
Hazchem Code	None.
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.

Section 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.
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.

Section 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. Minimise 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 oxidising agents.

Section 8: Exposure controls and personal protection

Occupational exposure limits

Malaysia. OELs. (Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations)

Components	Type	Value
Beryllium (CAS 7440-41-7)	TWA	0.002 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Beryllium (CAS 7440-41-7)	TWA	0.00005 mg/m ³	Inhalable fraction.

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

Appropriate engineering controls Not available.

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 practices.

Section 9: Physical and chemical properties

Appearance

Physical state Solid.

Form Various shapes.

Colour Copper

Odour Not applicable.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point 871.11 - 1071.11 °C (1600 - 1960 °F) / Not applicable.

Initial boiling point and boiling range Not applicable.

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.

Vapour pressure 0.91 hPa estimated

Vapour 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 8.66 g/cm³ estimated

Flammability Not applicable.

Specific gravity 8.66 estimated

Section 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 polymerisation 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.

Section 11: Toxicological information

Information on likely routes of exposure

Inhalation May cause sensitisation 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.

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 sensitisation

ACGIH sensitisation

Beryllium (CAS 7440-41-7) Respiratory sensitisation

Respiratory sensitisation May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation 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 (CAS 7440-41-7) 1 Carcinogenic to humans.

US NTP Report on Carcinogens: Known carcinogen

Beryllium (CAS 7440-41-7) 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 Hazardous by OSHA criteria. May cause damage to organs through prolonged or repeated exposure.

Further information Symptoms may be delayed.

Section 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.

Section 13: Disposal information

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.

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.

Section 14: Transportation information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Not available.

Annex II of MARPOL 73/78 and the IBC Code

Hazchem Code None.

Section 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Active Ingredients of Pesticide Product (Pesticide Act 1974, First Schedule, as amended through October 1, 2004)

Not regulated.

CWC (Chemical Weapons Convention) Act 2005, Schedules 1-3, as amended through CWC Regulations 2007, October 5, 2007)

Not regulated.

Medical Surveillance Chemicals, Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000: Schedule 2

Beryllium (CAS 7440-41-7)

Ozone Depleting Substances (ODS) (Environmental Quality (Prohibition on the Use of CFC and Other Gases as Propellants and Blowing Agents) Order 1993, Dec. 31, 1993)

Not regulated.

Prohibited Use of Substances [Occupational Safety and Health (Prohibition of Use of Substance) Order 1999]

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.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

Section 16: Other information

Issue date 16-November-2015

Version No. 01

Further information Transportation Emergency
Call Chemtrec at:
Domestic: 800.424.9300
International: 703.527.3887

List of abbreviations Not available.

References Not available.

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Revision Information

Product and Company Identification: Product and Company Identification
GHS: Qualifiers