



SECTION 1: Identification of the Substance or Mixture

CHEMICAL FAMILY: Element

1.1 Product Identifier

Product name : BISMUTH Solid Powder >100 Mesh 2003A
Other means of identification : Metallic Bismuth (Be)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For Casting, Soldering, Alloying, Fusible material, Radiation Shielding and related products.

Company / Undertaking Identification:

1.3 Details of the Supplier of the Safety Data Sheet

Belmont Metals Inc.
330 Belmont Avenue
Brooklyn, New York 11207
USA
info@belmontmetals.com

1.4 Emergency Telephone Number

US Office Emergency number +1.718.342.4900

This product is sold for Professional use ONLY. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, and Canadian WHMIS [Controlled Products Regulations] and the Global Harmonization Standard required information is included in appropriate sections based on the U.S. ANSI Z400.1-2008 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

General Hazard Statement: Solid metallic products are generally classified as “articles” and do not constitute a hazardous material in solid form under the definitions of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

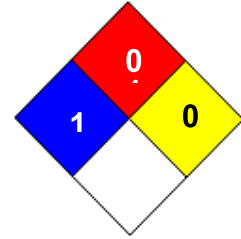
Any articles manufactured from these solid products would be generally classified as non-hazardous. However some hazardous elements contained in these products can be emitted under certain processing conditions such as but not limited to: burning, melting, cutting, sawing, brazing, grinding, machining, milling, and welding. Products in the solid state present no fire or explosion hazard. Small chips, fines, and dust may ignite readily, though.

The following classification information is for the hazardous elements which may be released during processing:



NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0

The substance is not classified according to the Globally Harmonized System (GHS).



EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010] According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture
CLP | Does not meet the criteria to be classified in the supplied form.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture
OSHA HCS 2012 | Not classified

Canada

According to: WHMIS

2.1 Classification of the substance or mixture
WHMIS | Not classified

2.2 Label elements

GHS-US labelling

Pictogram: Not Applicable for USA
CLP Hazard statements | No label element(s) required
Signal word Not Applicable

2.2 Label Elements
CLP
Hazard statements | No label element(s) required
DSD/DPD
Risk phrases | No label element(s) required

Precautionary Statements

P262 Do not get in eyes, on skin, or on clothing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.2 Label elements
OSHA HCS 2012
Hazard statements | No label element(s) required

2.3 Other hazards

2.3 Other Hazards
CLP The PBT and vPvB criteria of Annex XIII to the regulation (EC) 1907/2006 does not apply to inorganic substances.
DSD/DPD | None

2.3 Other hazards
OSHA HCS 2012 | This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

2.3 Other hazards
WHMIS In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).



SECTION 3: Composition/information on ingredients

Chemical characterization:

Substances

INGREDIENT: Bismuth

% WT >99.8

WHMIS: **Not classified**

Bismuth	CAS:7440-69-9 EC Number:231-177-4	EU DSD/DPD: Not classified EU CLP: Not classified OSHA HCS 2012: Not classified
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SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident.

4.1.2 Inhalation

After inhalation: Supply fresh air; consult doctor in case of complaints.

4.1.3 Skin contact

After skin contact: Generally, the product does not irritate the skin. Wash skin with soap and water.

4.1.4 Eye contact

After eye contact: Rinse opened eye for several minutes under running water. Wash eyes immediately with large amounts of water or normal saline until no evidence of chemical remains (at least 15 minutes). Seek medical attention if irritation persists.

4.1.5 Ingestion

Do not induce vomiting. Seek medical attention immediately. Rinse mouth with water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Refer to Section 11 - Toxicological Information.

4.3 Indication of immediate medical attention and special treatment needed

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: Firefighting measures

5.1 Extinguishing media

5.1.1 Suitable extinguishing media

Use Met-L-X or other appropriate metal-extinguishing powder. Dry powder; Foam; Carbon dioxide (CO₂), extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.1.2 Extinguishing media which must not be used for safety reasons

DO NOT use water if avoidable.



5.2 Special hazards arising from the substance or mixture

Negligible fire hazard in bulk form; however, Exposure to dust, powder, or fumes should be avoided. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.3 Advice for firefighters

Move container from fire area if you can do it without risk. Extinguish using agent for type of fire. Avoid breathing fumes from burning material. Wear self-contained respirator if large quantities of fumes. Fire or high temperature may create: Toxic gases/vapors/fumes of metal oxides or oxides.

5.4 Specific methods

FLAMMABLE LIMITS IN AIR:	No data available.
FLASH POINT:	Not applicable
AUTOIGNITION TEMPERATURE:	Not determined

SECTION 6: Accidental release measures

OCCUPATIONAL SPILL

Personal precautions, protective equipment and emergency procedures Not required.

If molten during fire, warn everybody of potential hazards and evacuate if necessary. Avoid breathing vapors, dust, or spray mist. Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2 Environmental precautions

Avoid dust formation. Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and materials for containment and cleaning up

Pick up mechanically. Send in suitable containers for recovery or disposal. (Section 13)

6.4 Reference to other sections

See Section 7 for information on safe handling. Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

SECTION 7: Handling and storage

7.1 Precautions for Safe Handling

Safe handling advice: No special precautions are necessary if used correctly.

If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. Avoid dust formation.

Technical measures/Precautions

Provide good ventilation of working area (local exhaust ventilation if necessary).

7.2 Conditions for Safe Storage, including any Incompatibilities

Always keep in containers of same material as the original one. Keep containers tightly closed in a dry place.

7.3 Specific end user(s)

No data available.



SECTION 8: Exposure Controls / Personal Protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace: Not required.

8.1.1 Threshold limits

No data available.

8.2 Exposure controls

Provide local exhaust or process enclosure ventilation to meet the published exposure limits. Good general ventilation 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.

8.2.1 Appropriate engineering controls

Avoid contact with eyes. Do not breathe dust. Wear suitable protective equipment. Ensure that eyewash stations are close to the workstation location. Clean skin thoroughly after work. At work do not eat, drink, smoke or take drugs. Keep away from food, drink and animal feed.

8.2.2.1 Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

8.2.2.2 Hand protection

Employee must wear appropriate protective impervious gloves to prevent contact with this substance. Approved, protective gloves must be supplied and worn to prevent burns from molten metals.

8.2.2.3 Eye/face protection

When working with molten metals, wear a face shield and safety glasses with side shields or splash-resistant safety goggles to prevent contact with this substance.

When working with molten metals, whenever there is any possibility for skin or eye contact, the employer should provide an eye wash fountain and quick drench shower within the immediate work area.

8.2.2.4 Skin protection

Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with molten metals when melting, casting or soldering.

8.2.3 Environmental exposure controls

The employer shall fulfill requirements of OSHA or IPPC Directive.



SECTION 9: Physical and chemical properties

9.1 Appearance

Appearance	Silvery white to dark gray lustrous solid powder with metallic characteristics.
Odor	Odorless or metallic
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	271.3 °C (520 °F)
Initial boiling point and boiling range	1560 °C (2840 °F)
Flash point	Not applicable. inorganic
Evaporation rate	No data available.
Flammability (solid, gas)	<u>Not combustible.</u>
Explosive properties:	Product does not present an explosion hazard.
Lower explosion limit	No data available.
Upper explosion limit	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Density at 20 °C (68 °F)	9.8 g/cm ³ (81.781 lbs./gal)
Solubility(ies)	Insoluble
Water solubility	<u>Insoluble</u>
Fat solubility (solvent - oil to be specified)	Insoluble
Auto-ignition temperature	<u>303 C(577.4 F) Flammability (solid, gas)</u>
Viscosity	Not applicable.
Oxidizing properties	No data available.
Other information	No further information available.

SECTION 10: Stability and Reactivity

STABILITY: Stable under normal temperatures and pressures.

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under recommended storage conditions.



10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Avoid dust formation.

10.5 Incompatible materials

No relevant information available.

10.6 Hazardous decomposition products

No dangerous decomposition products known.

SECTION 11: Toxicological Information

Bismuth (>= 99.9%)	7440-69-9	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg; Irritation: Skin-Human • 85.2 % 15 Minute(s) • Essentially non-irritating
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11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met



Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

11.1.1 Acute toxicity

Exposure to dust may cause irritation. May cause coughing and difficulties in breathing. Vapors may cause headache, fatigue, dizziness and nausea.

11.1.2 Irritation and corrosion

Skin: No irritant effect. The molten product can cause serious burns. Exposure to dust may cause mechanical irritation.
Eye: No irritant effect when properly used. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes. Adverse symptoms may include the following: irritation, watering, redness.

According to the classification criteria of the European Union, the product is not considered as being a skin irritant. OECD Guideline 439
According to the classification criteria of the European Union, the product is not considered as being an eye irritant. OECD Guideline 438

Ingestion

Acute (Immediate) I Metallic taste. May cause stomach pain or vomiting.
Chronic (Delayed) I Under normal conditions of use, no health effects are expected. Repeated and prolonged exposure may be harmful.

11.1.3 Sensitization

No sensitizing effects known.

11.1.4 Subacute, subchronic and prolonged toxicity

IARC (International Agency for Research on Cancer)	Substance is not listed.
NTP (National Toxicology Program)	Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)	Substance is not listed.

11.1.5 STOT-single exposure

No data available.

11.1.6 STOT-repeated exposure

No data available.

11.1.7 Aspiration hazard

Not applicable.

11.1.8 Other information on acute toxicity

CARCINOGEN STATUS: None. No studies have been found.



SECTION 12: Ecological Information

12.1 Toxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1.1 Aquatic toxicity

No data available.

12.1.2 Toxicity to other organisms

No data available.

12.2 Persistence and degradability

Inorganic: The product solely consist of inorganic compounds which are not biodegradable.

12.2.2 Chemical degradation

Not applicable

12.3 Bio accumulative potential

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

12.4 Mobility in soil

Not considered mobile but soluble compounds may be produced by acidic conditions

12.5 Results of PBT and vPvB assessment

The PBT and vPvB criteria of Annex XIII to regulation (EC) 1907/2006 does not apply to inorganic substances.

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations

Observe all federal, state and local regulations when disposing of this substance.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

13.1 Waste treatment methods

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Recover, reclaim or recycle if practical.
Refer to manufacturer/supplier for information on recovery/recycling. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.



13.2 Waste from residues / unused products

Dispose of as special waste in compliance with local and national regulations or contact manufacturer for recycling. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of in agreement with regional waste disposal company

SECTION 14: Transportation Information

No classification currently assigned. Bismuth is not a hazardous material for transportation in solid form.
I: Per DOT, IATA, and IMO: UN3288,

14.1	UN number	DOT, ADN, IMDG, IATA: Not Regulated
14.2	UN proper shipping name	DOT, ADN, IMDG, IATA: Not Regulated
14.3	Transport hazard class(es)	DOT, ADN, IMDG, IATA: Class: Not Regulated.
14.4	Packing group	DOT, ADN, IMDG, IATA: Not Regulated.
14.5	Environmental hazards	No.
14.6	Special precautions for users	No Data at This Time
	Further information	None
14.7	European Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not classified as hazardous in the meaning of transport regulations.
	UN "Model Regulation":	N/A

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA:

Section 355 (extremely hazardous substances):	Substance is not listed.			
Section 313 (Specific toxic chemical listings):	Substance is not listed.			
TSCA (Toxic Substances Control Act):	Substance is listed.			
Australia AICS	Canada DSL	China	EU EINECS	Korea KECL
Yes	Yes	Yes	Yes	Yes

Labor

Canada - WHMIS - Classifications of Substances	7440-69-9	Uncontrolled product according to WHMIS classification criteria
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Environment

Germany - Water Classification (VwVwS) - Annex 1	7440-69-9	ID Number 1443, not considered hazardous to water
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Environment

India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

7440-69-

Proposition 65:

Chemicals known to cause cancer:	Substance is not listed.
Chemicals known to cause reproductive toxicity for females:	Substance is not listed.
Chemicals known to cause reproductive toxicity for males:	Substance is not listed.
Chemicals known to cause developmental toxicity:	Substance is not listed.

Carcinogenic categories

EPA (Environmental Protection Agency)	Substance is not listed.
TLV (Threshold Limit Value established by ACGIH)	Substance is not listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)	Substance is not listed.

- GHS label elements not applicable
- Hazard pictograms not applicable
- Signal word not applicable
- Hazard statements not applicable

Precautionary statements

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

Information Sources:

US-EPA Ecotox databases Hazardous Substance Data Bank (HSDB®)
ChemPortal Handbook of chemistry and Physics 91st Edition,
W.M. Haynes NIOSH RTECS® databases (Registry of Toxic Effects of Chemical Substances)
European Chemicals Agency (ECHA) databases.



SECTION 16: Other Information

MANUFACTURER DISCLAIMER:

Belmont believes that the information contained in this Safety Data Sheet (SDS) is accurate as of the "Date of Last Revision" specified on this SDS. As the condition or methods of use are beyond Belmont's control, we do not assume any responsibility and expressly disclaims any liability for any use of this material. This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The information relates only to typical properties of the product. Do not use the information for product performance or specification purposes. The information is for use by technically skilled persons at their own risk whom must determine the conditions of safe use of the products.

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Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent

List of relevant R phrases, hazard statements, safety phrases and/or precautionary statements:

Classification system:

(scale 0 - 4)

HMIS RATING (scale 0 - 4)

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	<input type="checkbox"/>

