

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/23/2014

Reviewed on 05/22/2013

1 Identification

Product identifier
Product name: Bismuth foil
Stock number: 41636

CAS Number:

7440-69-9

EC number:

231-177-4

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

No further relevant information available.

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet
Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

The substance is not classified as hazardous to health or the environment according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable

Information concerning particular hazards for human and environment:

Not applicable

No information known.

Hazards not otherwise classified No information known.

Label elements
Labelling according to Regulation (EC) No 1272/2008 Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

WHMIS classification Not controlled

Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	1
FIRE	0
REACTIVITY	0

Health (acute effects) = 1

Flammability = 0

Physical Hazard = 0

Other hazards
Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

7440-69-9 Bismuth

Identification number(s):

EC number: 231-177-4

4 First-aid measures

Description of first aid measures
General information No special measures required.

After inhalation Seek medical treatment in case of complaints.

After skin contact Generally the product does not irritate the skin.

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After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing If symptoms persist consult doctor.**Information for doctor****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures**Extinguishing media****Suitable extinguishing agents** Special powder for metal fires. Do not use water.**For safety reasons unsuitable extinguishing agents** Water**Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:

Metal oxide fume

Advice for firefighters**Protective equipment:** No special measures required.**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures** Not required.**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

Methods and material for containment and cleaning up: Pick up mechanically.**Prevention of secondary hazards:** No special measures required.**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Information about protection against explosions and fires: No special measures required.**Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidizing agents.

Store away from halogens.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see section 7.**Control parameters****Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data**Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Not required.**Protection of hands:** Not required.

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Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form: Solid in various forms
Color: Grey
Odor: Odorless
Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 271.4 °C (521 °F)
Boiling point/Boiling range: 1564 °C (2847 °F)
Sublimation temperature / start: Not determined

Flash point: Not applicable
Flammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Auto igniting: Not determined.

Danger of explosion: Not determined.

Explosion limits:

Lower: Not determined
Upper: Not determined
Vapor pressure at 840 °C (1544 °F): 1 hPa (1 mm Hg)
Density at 20 °C (68 °F): 9.79 g/cm³ (81.698 lbs/gal)

Bulk density at 20 °C (68 °F): 6000 kg/m³
Relative density Not determined.
Vapor density Not applicable.
Evaporation rate Not applicable.
Solubility in / Miscibility with
Water: Insoluble
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not applicable.
kinematic: Not applicable.
Other information No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions No dangerous reactions known

Incompatible materials:

Acids
 Halogens
 Oxidizing agents

Hazardous decomposition products: Metal oxide fume

11 Toxicological information**Information on toxicological effects****Acute toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

Oral	LD50	10000 mg/kg (mouse)
		5000 mg/kg (rat)

Skin irritation or corrosion: No irritant effect.

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

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Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.**Specific target organ system toxicity - repeated exposure:** No effects known.**Specific target organ system toxicity - single exposure:** No effects known.**Aspiration hazard:** No effects known.**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.

Avoid transfer into the environment.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**14 Transport information****UN-Number**

DOT, ADR, ADN, IMDG, IATA

Not applicable

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA

Not applicable

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

Not applicable

Packing group

DOT, ADR, IMDG, IATA

Not applicable

Environmental hazards:

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:**DOT****Marine Pollutant (DOT):**

No

UN "Model Regulation":

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15 Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

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California Proposition 65**Prop 65 - Chemicals known to cause cancer** Substance is not listed.**Prop 65 - Developmental toxicity** Substance is not listed.**Prop 65 - Developmental toxicity, female** Substance is not listed.**Prop 65 - Developmental toxicity, male** Substance is not listed.**Information about limitation of use:** For use only by technically qualified individuals.**Other regulations, limitations and prohibitive regulations****Substances of very high concern (SVHC) according to REACH, Article 57**

Substance is not listed.

REACH - Pre-registered substances Substance is listed.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Health, Safety and Environmental Department.**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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