



Material Safety Data Sheet

Bismuth Ingot

1) Identification of substance/preparation and of the company undertaking

Material	Bismuth Ingot
Molecular Weight	Bi 208.98037
CAS No	7440-69-9
EC No	231-177-4
EINECS No	231-177-4
Data No	MSDS140629BI
Company	Inoxia Ltd 45.7 Dunsfold Park Stovolds Hill Cranleigh Surrey GU6 8TB Tel: 02032 909990 safety@inoxia.co.uk www.inoxia.co.uk

2) Composition

Name	Bismuth Ingot
CAS No	7440-69-9
EC No	231-177-4
%by weight	99.99

3) Hazard Identification

Emergency Overview

Hazard statement(s):

H228 Flammable solid.

H303 May be harmful if swallowed.

Precautionary statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed

4) **First Aid Measures**

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Eye contact: Flush eyes with water as a precaution.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5) **Fire Fighting**

Conditions of flammability: Flammable in the presence of a source of ignition, through friction or retained heat. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters: Wear self contained breathing apparatus for fire fighting if necessary

Hazardous combustion products: Hazardous decomposition products formed under fire conditions. - Bismuth oxides

Further information: Use water spray to cool unopened containers.

6) **Accidental Release**

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations.

7) **Handling/Storage**

Precautions for safe handling: Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Take measures to prevent the build-up of electrostatic charge.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

8) Exposure Controls and Personal Protection

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9) Physical/Chemical Properties

Physical state and appearance:	Ingot
Colour:	Silvery white with rose Ingot
pH:	Not available
Melting point/range:	271 °C (520 °F) - lit.
Boiling point:	1,560 °C (2,840 °F) - lit.
Flash point:	Not available
Flammability (solid, gas):	The substance or mixture is a flammable solid
Ignition temperature:	Not available
Autoignition temperature:	Not available
Lower explosion limit:	Not available
Upper explosion limit:	Not available
Vapour pressure:	< 0.1 hPa (< 0.1 mmHg) at 20 °C (68 °F)
Density:	9.8 g/mL at 25 °C (77 °F)
Water solubility:	insoluble
Partition coefficient:	Not available
Relative vapour density:	Not available

Odour:	odourless
Odour Threshold:	Not available
Evaporation rate:	Not available

10) **Stability/Reactivity**

Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Not available
Conditions to avoid:	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Materials to avoid:	Oxidizing agents, Halogens, acids
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions. - Bismuth oxides
Other decomposition products:	Not available

11) **Toxicological Info**

Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.
Signs and Symptoms of Exposure:	Kidney disorders, Liver disorders, Dermatitis
Synergistic effects:	Not available

12) **Ecological Information**

Toxicity:	Not available
Persistence and degradability:	Not available
Bioaccumulative potential:	Not available
Mobility in soil:	
PBT and vPvB assessment:	Not available
Other adverse effects:	Not available.

13) **Disposal Consideration**

Product:	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging:	Dispose of as unused product.

14) **Transport Information**

DOT Classification:	Not a DOT controlled material (United States).
Identification:	Not applicable.
Special Provisions for Transport:	Not applicable.

15) **Regulatory Information**

OSHA Hazards:	Flammable solid
SARA 302:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards:	Fire Hazard
California Prop. 65 Components:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16) Other Information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.