Bismuth Powder

SAFETY DATA SHEET

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: Bismuth Powder
Formula: Bi

Supplier: ESPI Metals
1050 Benson Way
Ashland, OR 97520
Telephone: 800-638-2581
Fax: 541-488-8313
Email: sales@espimetals.com

Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Not classified as hazardous

GHS Label Elements:
Signal Word: N/A
Hazard Statements: N/A
Precautionary Statements: N/A

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Bismuth
CAS#: 7440-69-9
%: 100
EC#: 231-177-4

4 FIRST AID MEASURES
**General Measures**: No special requirements.

**INHALATION**: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention if symptoms persist.

**INGESTION**: Rinse mouth with water. Do not induce vomiting. Seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

**SKIN**: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention if symptoms persist.

**EYES**: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

**Most Important Symptoms/Effects, Acute and Delayed**: May cause irritation. See section 11 for more information.

**Indication of Immediate Medical Attention and Special Treatment**: No other relevant information available.

---

**5  FIREFIGHTING MEASURES**

**Extinguishing Media**: Use Class D dry powder extinguishing agent.

**Unsuitable Extinguishing Media**: Do not use water, carbon dioxide or halogenated extinguishing agents.

**Specific Hazards Arising from the Material**: Fine dust is a weak to moderate fire hazard if allowed to accumulate and subjected to an ignition source. May release fumes of bismuth oxides under fire conditions.

**Special Protective Equipment and Precautions for Firefighters**: Full face, self-contained breathing apparatus and full protective clothing when necessary.

---

**6  ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment, and Emergency Procedures**: Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

**Methods and Materials for Containment and Cleaning Up**: Avoid creating dust. Scoop or vacuum up spill using a vacuum with a HEPA filter. Place in properly labeled closed containers. Use only non-sparking tools and natural bristle brushes.

**Environmental Precautions**: Do not allow to enter drains or to be released to the environment.

---

**7  HANDLING AND STORAGE**

**Precautions for Safe Handling**: Avoid creating dust. Avoid breathing dust or fumes. Provide adequate ventilation if dusts are created. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

**Conditions for Safe Storage**: Store material tightly sealed in properly labeled containers. Store in a cool, dry area. Do not store together with oxidizers, acids or halogens. See section 10 for more information on incompatible materials.

---

**8  EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Exposure Limits**: Bismuth
OSHA/PEL: No exposure limit established
ACGIH/TLV: No exposure limit established

**Engineering Controls:** When working with finely divided powders, handle in a controlled, enclosed environment. Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

**Respiratory Protection:** If permissible levels are exceeded, use NIOSH approved dust respirator.

**Eye Protection:** Safety glasses

**Skin Protection:** Wear impermeable gloves, protective work clothing as necessary.

---

### 9 PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:**

- **Form:** Powder
- **Color:** Gray
- **Odor:** Odorless

**Odor Threshold:** Not determined

- **pH:** N/A
- **Melting Point:** 271.3 ºC
- **Boiling Point:** 1560±5 ºC
- **Flash Point:** N/A
- **Evaporation Rate:** N/A
- **Flammability:** N/A
- **Upper Flammable Limit:** N/A
- **Lower Flammable Limit:** N/A
- **Vapor Pressure:** 1 mm Hg @ 1021 ºC
- **Vapor Density:** N/A
- **Relative Density (Specific Gravity):** 9.80 g/cc
- **Solubility in H2O:** Insoluble
- **Partition Coefficient (n-octanol/water):** Not determined
- **Autoignition Temperature:** No data
- **Decomposition Temperature:** No data
- **Viscosity:** N/A

---

### 10 STABILITY AND REACTIVITY

**Reactivity:** No data
Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a possible dust explosion hazard.

Conditions to Avoid: Dusting conditions.

Incompatible Materials: Strong acids, strong oxidizers, halogens and interhalogen compounds.

Hazardous Decomposition Products: Bismuth oxide fumes.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin and eyes.

Symptoms of Exposure: May cause irritation.

Acute and Chronic Effects: Prolonged inhalation of bismuth dusts may cause mental changes, nervousness, blood changes, lymphocytosis and bone marrow depression. Ingestion of bismuth compounds may cause nausea, vomiting, diarrhea, and pigmentation of the skin and mucous membranes.

Acute Toxicity: No data

Carcinogenicity: NTP: Not identified as carcinogenic IARC: Not identified as carcinogenic

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

Shipping Regulations: Not regulated

UN Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing Group: N/A
15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): (-325 Mesh) N/A

Canada WHMIS Classification (CPR, SOR/88-66): (-325 Mesh) N/A

HMIS Ratings: Health: 1 Flammability: 1 Physical: 0

NFPA Ratings: Health: 1 Flammability: 1 Instability: 0

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI Metals makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information. ESPI Metals shall not be held liable for any damages resulting from handling or from contact with the above product. Users should satisfy themselves that they have all current data relevant to their particular use.

Prepared by: ESPI Metals

Revised/Reviewed: July 2015