



LTS Research Laboratories, Inc.
Safety Data Sheet
Bismuth Metal

1. Product and Company Identification

Trade Name: Bismuth Metal
Chemical Formula: Bi
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 2001 Oaks Pkwy
City: Belmont
State: North Carolina
Zip Code: 28012
Country: USA
Tel #: +1 (704) 899 2840

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid

Precautionary Statements: P210: Keep away from heat/ sparks/ flame. No smoking.
P240: Ground/ bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ light/ equipment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P370 + P378: In case of fire: Use CO₂, powder for extinction.

HMIS Health Ratings (0-4):	Powder	Pieces & larger
Health:	1	1
Flammability:	2	0
Physical:	1	0

3. Composition

Chemical Family: Metal
Additional Names: None

Bismuth (Bi):
Percentage: 100 wt%
CAS #: 7440-69-9
EC #: 231-177-4

4. First Aid Procedures	
General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	Treat symptomatically.
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
Ingestion:	Clean mouth with water. Make victim drink water (two glasses at most). Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
5. Firefighting Measures	
Flammability:	Non-flammable, except as powder
Extinguishing Media:	Use suitable extinguishing agent for surrounding material and type of fire. Use water spray, carbon dioxide (CO ₂), dry chemical, chemical foam.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.
6. Accidental Release Measures	
If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.
7. Handling and Storage	
Handling Conditions:	Avoid contact with skin and eyes. Avoid contact with skin and clothing. Avoid breathing vapors and mist. Do not ingest. If swallowed, then seek immediate medical assistance. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Minimize dust generation and accumulation.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Keep away from heat, sparks and flame. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	None
Threshold Limit Value:	None
Special Equipment:	None
Respiratory Protection:	Dust Respirator. Filter type P1
Protective Gloves:	Nitrile rubber gloves, 0.11 mm thick
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Metallic grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	1560 °C
Melting Point:	271 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	9.78 g/cc
Molecular weight:	208.98 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Strong oxidizing agents, acids, halogens.
Incompatible Conditions:	Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.
Hazardous Decomposition Products:	Bismuth oxides.

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	5000 mg/kg for rat by mouth
Carcinogen:	N/A

12. Ecological Information

Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Do not empty into drains

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous as powder only.



Hazard Class: 4.1 Flammable solids
Packing Group: II
UN Number: UN3089
Proper Shipping Name: Metal powder, flammable, n.o.s. (Bismuth)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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