



LTS Research Laboratories, Inc.
Safety Data Sheet
Magnesium Bismuth Alloy

1. Product and Company Identification

Trade Name: Magnesium Bismuth Alloy
Chemical Formula: Mg_3Bi_2
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

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.
H250: Catches fire spontaneously if exposed to air.
H260: In contact with water releases flammable gases which may ignite spontaneously.

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P222: Do not allow contact with air.
P223: Do not allow contact with water.
P231+P232: Handle under inert gas. Protect from moisture.
P235+P410: Keep cool. Protect from sunlight.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P280: Wear protective gloves/ eye protection/ face protection.
P335+P334: Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P402+P404: Store in a dry place. Store in a closed container.
P407: Maintain air gap between stacks/ pallets.
P420: Store away from other materials.
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):
Health: 1
Flammability: 4
Physical: 3

3. Composition

Chemical Family: Metal alloy
Additional Names: Bismuth Magnesium Alloy, Magnesium bismuthide

Magnesium Bismuth Alloy (Mg₃Bi₂):
Percentage: 100 wt%
CAS #: 12048-46-3
EC #: 234-983-4

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep patient warm. Seek immediate medical attention.
Ingestion: Seek immediate medical attention.
Skin: Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

5. Firefighting Measures

Flammability: Highly flammable
Extinguishing Media: Do not use water for fires – use special powder for metals fires.
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. Keep unprotected persons away. 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. Keep away from ignition sources.
Environmental Precautions: Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions: Handle under dry protective gas. Wash thoroughly after handling.
Storage Conditions: Store in a cool dry place in a tightly sealed container. Store away from air, oxidizing agents, halogens, acids, water/moisture. This product is air and moisture sensitive. 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:	N/A
Threshold Limit Value:	N/A
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of 0.11 mm
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	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Contact with water liberates extremely flammable gases.
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	490.876 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions. Contact with water liberates extremely flammable gases. Catches fire spontaneously if exposed to air.
Reacts With:	Oxidizing agents, acids, halogens, nitrogen, acid chlorides,
Incompatible Conditions:	Heat, flames and sparks, air, water/moisture
Hazardous Decomposition Products:	Metal oxide fume, bismuth oxide, magnesium oxide

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:	Burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, chills, fever, fatigue, muscle pain, joint pain, rash, anorexia.
Aggravated Medical Conditions:	Liver - Irregularities - Based on Human Evidence
Median Lethal Dose:	2,000 mg/kg for rat by mouth as Bi
Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper government permits. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer not the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Hazardous for transportation
	
Hazard Class:	4.2 Spontaneously combustible solid
Secondary Class:	4.3 Substances which, in contact with water, emit flammable gases
Packing Group:	II
UN Number:	UN1418
Proper Shipping Name:	Metal powders, flammable, n.o.s. (Magnesium Bismuth alloy)

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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