



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Molybdenum Boride

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1. Product and Company Identification

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Trade Name: Molybdenum boride  
Chemical Formula: MoB<sub>2</sub>  
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)

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2. Hazards Identification

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Signal Word: None  
Hazard Statements: None  
Precautionary Statements: None

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



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3. Composition

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Chemical Family: Ceramic  
Additional Names: Molybdenum diboride

Molybdenum boride (MoB<sub>2</sub>):  
Percentage: 100 wt%  
CAS #: 12007-27-1  
EC #: 234-502-8

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4. First Aid Procedures

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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.  
Ingestion: Seek Medical Attention.  
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.  
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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## 5. Firefighting Measures

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|                                |   |
|--------------------------------|---|
| Flammability:                  | Non-flammable   |
| Extinguishing Media:           | CO <sub>2</sub> , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant 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. |

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## 6. Accidental Release Measures

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|----------------------------------|--|
| 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.   |

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## 7. Handling and Storage

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|----------------------------|--|
| Handling Conditions:       | Wash thoroughly after handling.  |
| Storage Conditions:        | Store in a cool dry place in a tightly sealed container. 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.  |

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## 8. Exposure Controls and Personal Protection

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|                              |   |
|------------------------------|---|
| Permissible Exposure Limits: | 10 mg/m <sup>3</sup> as Mo, long-term value                             |
| Threshold Limit Value:       | 15 mg/m <sup>3</sup> as Mo, long-term value                             |
| Special Equipment:           | None  |
| Respiratory Protection:      | Dust Respirator Not required  |
| Protective Gloves:           | Rubber gloves Not required  |
| Eye Protection:              | Safety glasses or goggles   |
| Body Protection:             | Protective work clothing. Wear close-toed shoes and long sleeves/pants. |

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## 9. Physical and Chemical Characteristics

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|                           |  |
|---------------------------|--|
| Color                     | Grey   |
| Form:                     | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor:                     | Odorless   |
| Water Solubility:         | Insoluble  |
| Boiling Point:            | N/A  |
| Melting Point:            | N/A  |
| Flash Point:              | N/A  |
| Autoignition Temperature: | N/A  |
| Density:                  | 7.12 g/cc  |
| Molecular weight:         | 117.560 g/mol  |

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## 10. Reactivity

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|                                   |   |
|-----------------------------------|---|
| Stability:                        | Stable under recommended storage conditions |
| Reacts With:                      | Oxidizing agents                            |
| Incompatible Conditions:          | None  |
| Hazardous Decomposition Products: | Metal oxide fume                            |

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## 11. Toxicological Information

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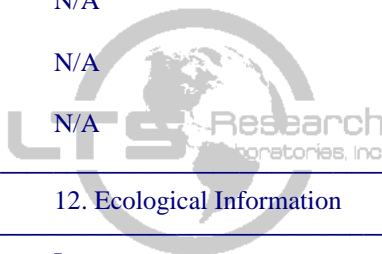
### Potential Health Effects:

|             |   |
|-------------|---|
| Eyes:       | May cause irritation  |
| Skin:       | May cause irritation  |
| Ingestion:  | May cause irritation  |
| Inhalation: | May cause irritation  |
| Chronic:    | Boron affects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea, followed by profound shock and coma. The temperature may become subnormal and a scarletina form rash may cover the entire body. Acute molybdenum poisoning may cause severe gastrointestinal irritation, diarrhea, coma and death from cardiac failure. Chronic molybdenum poisoning in laboratory animals has caused loss of weight, anorexia, anemia, deficient lactation, male sterility, osteoporosis and bone joint abnormalities. |

|                                |     |
|--------------------------------|-----|
| Signs & Symptoms:              | N/A |
| Aggravated Medical Conditions: | N/A |

Median Lethal Dose: N/A

Carcinogen: N/A



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## 12. Ecological Information

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| Aquatic Toxicity:                      | Low |
| Persistent Bioaccumulation Toxicity:   | No  |
| Very Persistent, Very Bioaccumulative: | No  |
| Notes:                                 | N/A |

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## 13. Disposal Considerations

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

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## 14. Transportation Data

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|                       |                                   |
|-----------------------|-----------------------------------|
| Hazardous:            | Not hazardous for transportation. |
| Hazard Class:         | N/A                               |
| Packing Group:        | N/A                               |
| UN Number:            | N/A                               |
| Proper Shipping Name: | N/A                               |

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## 15. Regulatory Information

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

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## 16. Other Information

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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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07/13/2015

