



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Barium Aluminum Oxide

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1. Product and Company Identification

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Trade Name: Barium Aluminum Oxide  
Chemical Formula: BaAl<sub>2</sub>O<sub>4</sub>  
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 #: 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: Warning



Hazard Statements: H302+H332: Harmful if swallowed or if inhaled

Precautionary Statements: P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P264: Wash face, hands, and any exposed skin thoroughly after handling  
P270: Do not eat, drink or smoke when using this product  
P271: Use only outdoors or in a well-ventilated area  
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell  
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P312: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P330: Rinse mouth  
P501: Dispose of contents/ container to an approved waste disposal Plant

HMIS Health Ratings (0-4):  
Health: 2  
Flammability: 0  
Physical: 1

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3. Composition

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Chemical Family: Ceramic  
Additional Names: Barium aluminate, barium dialuminium tetraoxide

Barium Aluminum Oxide (BaAl<sub>2</sub>O<sub>4</sub>)

Percentage: 100 wt%  
CAS #: 12004-04-5  
EC #: 234-445-9

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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: N/A

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.  
Ingestion: Rinse mouth with water. Do not induce vomiting. 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.

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#### 5. Firefighting Measures

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Flammability: Non-flammable

Extinguishing Media: No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. Do not use water for metal fires – use CO<sub>2</sub>, sand, extinguishing powder.

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:	0.5 mg/m <sup>3</sup> as BaAl <sub>2</sub> O <sub>4</sub> , long-term value
Threshold Limit Value:	0.5 mg/m <sup>3</sup> as BaAl <sub>2</sub> O <sub>4</sub> , long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves Check gloves prior to each use
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:	2327 °C
Melting Point:	660 °C
Flash Point:	N/A
Autoignition Temperature:	400 °C
Density:	2.7020 g/cm <sup>3</sup>
Molecular weight:	26.98 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 under recommended use conditions
Hazardous Decomposition Products:	Barium oxides, Fumes of aluminum or aluminum oxide

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Harmful if swallowed
Inhalation:	Harmful if inhaled
Chronic:	N/A
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:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment.

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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: Hazardous for transportation



Hazard Class: 6.1  
Packing Group: III  
UN Number: UN1564  
Proper Shipping Name: Barium compounds, n.o.s. (Barium aluminum oxide)

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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: Yes

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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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