

# SAFETY DATA SHEET

Version 1.0  
Revision Date: 06/12/2015

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product Name: Brown Fused Alumina (BFA)  
 Product Number: BFA (multiple mesh and grit sizes)  
 Trade Name: BFA-96 (Refractory), Virgin BFA – Abrasive, Fused Aluminum Oxide, Fused Alumina  
 General Use: Abrasives, Ceramics, Surface Treatment and Refractory  
 Chemical Family: Brown Fused Aluminum Oxide, Al<sub>2</sub>O<sub>3</sub>  
 CAS-No: 1344-28-1  
 EC-No: 215-691-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Raw material for various refractory applications

### 1.3 Details of the supplier of the safety data sheet

Company: Great Lakes Minerals  
 1200 Port Road  
 Wurtland, Kentucky 41144-1635  
 USA  
 Telephone: +1 (606) 833-8383  
 Email: [CustomerService@glmin.com](mailto:CustomerService@glmin.com)

### 1.4 Emergency telephone number

Emergency Phone #: +1 (606) 833-8383 (8:00am – 4:30pm EST)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Component Classified – None**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**  
 Not Classified

### 2.2 GHS Label elements, including precautionary statements

Pictogram: Not applicable  
 Signal word: No signal word  
 Hazard statement(s): No known significant effects or critical hazards  
 Precautionary statement(s): Not applicable

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms: Brown Fused Alumina (BFA)  
 Formula: Mixture  
 Density (g/ml): 3.9 g/cc at 20°C

### 3.2 Ingredients

| Chemical Name, Formula                         | CAS Number | EINECS Number | % Percentage |
|--|------------|---------------|--------------|
| Aluminum Oxide, Al <sub>2</sub> O <sub>3</sub> | 1344-28-1  | 215-691-6     | >98% WT      |
| Magnesium Carbonate, MgCO <sub>3</sub>         | 546-93-0   | 208-915-9     | 1% WT        |
| Varies (Naturally Occurring)                   | ----       | ----          | <1% WT       |

### 3.3 Hazardous Components

None of the compounds in this mixture are shown to be hazardous under normal conditions of use

### 3.4 Additional Information

Per the XRD Rietveld Method used to determine mixture components and content, there are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable are significant or classified as hazardous to health or the environment and hence require reporting in this section.

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Inhalation:** If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention

**Skin Contact:** Wash skin with soap and water. If necessary, seek medical attention

**Eye Contact:** Flush eyes with water. If necessary, seek medical attention

**Ingestion:** If a large amount is swallowed, get medical attention

**4.2 Most Important Symptoms/Effects, Acute and Delayed:** No data available; generated dust may result in irritation.

### 4.3 Indication of any immediate medical attention and special treatment needed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

This product is not flammable. Use fire extinguishing media appropriate for surrounding materials.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: None under normal conditions

### 5.3 Advice for firefighters

Special fire-fighting procedures: No specific fire-fighting procedures given

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Follow precautions for safe handling described in this safety data sheet

### 6.2 Environmental precautions

The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

### 6.3 Methods and material for containment and cleaning up

Avoid excessive dust formation. Transfer to a container for disposal.

### 6.4 Reference to other sections

For personal protection see section 8. For waste disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Exposure Limits:

ACGIH (TLV): 1 mg/m<sup>3</sup> (TWA, respirable fraction, related to Aluminum insoluble compounds)

OSHA (PEL): 15 mg/m<sup>3</sup> (TWA, total particulates, not otherwise regulated)  
5 mg/m<sup>3</sup> (TWA, respirable particulates, not otherwise regulated).

**Engineering Controls:** Provide adequate ventilation to control dusts. Observe occupational exposure limits and minimize the inhalation of dusts.

**Respiratory Protection:** No specific recommendation made, but respiratory protection must be used if the general dust level exceeds recommended occupational exposure limits. Wear appropriate dust masks in high dust conditions and affected work areas.

**Eye/Face Protection:** Wear dust resistant safety goggles where this is danger of eye contact. Provide eyewash station.

**Skin and Body Protection:** No specific hand protection noted, but gloves may still be advisable. Wash hands at the end of each work shift and before eating, smoking and using the toilet.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|                          |                                |
|--------------------------|--------------------------------|
| <b>Physical state:</b>   | Solid [Granular solid. Powder] |
| <b>Color:</b>            | Brown / Grey                   |
| <b>Melting point:</b>    | 2000°C (3632°F)                |
| <b>Oder:</b>             | Odorless                       |
| <b>pH:</b>               | Neutral                        |
| <b>Relative density:</b> | 3.9 g/cc at 20°C               |
| <b>Granulometry:</b>     | Varies (Generally >1µm)        |

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal temperature conditions.

### 10.2 Chemical stability

The product is stable.

### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4 Conditions to avoid

None known.

### 10.5 Incompatible materials

No specific, or groups of materials, are likely to react to produce a hazardous situation.

### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Other health effects: This substance has no evidence of carcinogenic properties

#### Acute toxicity

Acute toxicity (Oral LD50): Not relevant

Acute toxicity (Dermal LD50): Not relevant

Acute toxicity (Inhalation LC50): Not relevant

**Inhalation:** Dust in high concentrations may irritate the respiratory system

**Ingestion:** May cause discomfort if swallowed

**Skin contact:** Powder may irritate skin

**Eye contact:** Particles in the eyes may cause irritation and smarting

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## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Not regarded as dangerous for the environment

**12.1 Acute fish toxicity:** Not considered toxic to fish

**12.2 Persistence and degradability:** The product is not readily biodegradable

**12.3 Bioaccumulative potential:** The product is not bioaccumulating

**12.4 Mobility in soil:** Not relevant, due to the form of the product

**12.5 Results of PBT and vPvB assessment:** This product does not contain any PBT or vPvB substances

**12.6 Other adverse effects:** None known

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Dispose of waste and residues in accordance with local authority requirements

#### Contaminated packaging

Dispose of as unused product

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## 14. TRANSPORT INFORMATION

Road transport notes: Not classified

Rail transport notes: Not classified

Sea transport notes: Not classified

Air transport notes: Not classified

**14.1 UN Number:** The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

**14.2 UN proper shipping name:** Not classified for transportation

**14.3 Transport and hazard class(es):** Not classified for transportation

**14.4 Packing group:** Not classified for transportation

**14.5 Environmental hazards:** Not an environmentally hazardous substance / marine pollutant

**14.6 Special precautions for user:** Not classified for transportation

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable

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## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Aluminum Oxide                      CAS-No. 1344-28-1              Revision Date: 1994-04-01

### SARA 311/312 Hazards

Regulated per OSHA HAZCOM Standards

### Massachusetts Right to Know Components

Aluminum Oxide                      CAS-No. 1344-28-1              Revision Date: 1994-04-01

Magnesium Carbonate              CAS-No. 546-93-0

### Pennsylvania Right to Know Components

Aluminum Oxide                      CAS-No. 1344-28-1              Revision Date: 1994-04-01

### New Jersey Right to Know Components

Aluminum Oxide                      CAS-No. 1344-28-1              Revision Date: 1994-04-01

Magnesium Carbonate              CAS-No. 546-93-0

## California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

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### 16. OTHER INFORMATION

#### Full text of H-Statements referred to under sections 2 and 3.

Not applicable

#### HMIS Rating

|                        |   |
|------------------------|---|
| Health hazard:         | 1 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

#### NFPA Rating

|                    |   |
|--------------------|---|
| Health hazard:     | 1 |
| Fire Hazard:       | 0 |
| Reactivity Hazard: | 0 |

#### Further information

License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of this product due to naturally occurring variation in the ore from time to time. Great Lakes Minerals and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.