

MATERIAL SAFETY DATA SHEET

Product Name or Number:

Alumina-Mullite Refractory, Mullite Bonded Alumina Refractory;
Product Codes BP88/6-AM22 (046), BP88/6-AM22-H (069), BP88/6-AM22-LF (075), BP88/20-AM22 (047),
BP90/48-AM22 (048), BP92/10-MA-LD-DEV (D051), BP87/100-A-POR (053)

Product Type:

Refractory/Ceramic Shape

Manufacturer:

Blasch Precision Ceramics, Inc.
580 Broadway
Albany, NY 12204

Emergency Phone No.:

(518) 436-1263

MSDS prepared by:

Blasch Precision Ceramics, Inc.
Technical Department
(518) 436-1263

Date Issued/Revised:

3/3/2006

Approved By:

David A. Larsen

SECTION I: PRODUCT IDENTITY

Chemical Name:

Alumina-Silica Bonded Alumina/Mullite, Mullite Bonded Alumina

Chemical Formula:

$\text{Al}_2\text{O}_3 \cdot \text{SiO}_2 + \text{Al}_2\text{O}_3 + 3\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$

SECTION II: CHEMICAL COMPOSITION

| <i>Ingredients</i> | <i>CAS No.</i> | <i>Percent</i> |
|--|----------------|----------------|
| Silica, crystalline* | 14808-60-7 | 0.1 - 2 |
| (Includes quartz, cristobalite, and tridymite) | | |
| Silica, amorphous | 7631-86-9 | 6 - 14 |
| Aluminum Oxide | 1344-28-1 | 86 - 93 |

* See note under Section VI.

SECTION III: PHYSICAL DATA

| | |
|--|---|
| Boiling Point (°F): | Not applicable |
| Melting Point (°F): | >3200 |
| Vapor Pressure (mm): | Not applicable |
| Vapor Density (Air=1): | Not applicable |
| Solubility in Water: | Insoluble |
| % Volatile (by weight): | Not volatile |
| Appearance and Odor: | White ceramic/refractory shape. No odor |
| Odor threshold (ppm): | Not applicable |
| Specific Gravity (H ₂ O=1): | 2.7 - 2.9 (1.5 - 1.9 for 053 and D051 Low Density products) |
| Percent Volatile by Volume: | Not applicable |
| Evaporation Rate: | Not applicable |
| pH: | Not applicable |
| Coefficient of Water/Oil Distribution: | Not available |

SECTION IV: FIRE & EXPLOSION HAZARD

| | |
|---------------|--|
| Flammability: | This product is non-flammable and will not support combustion. |
|---------------|--|

SECTION V: REACTIVITY DATA

| | |
|-----------------------------------|---|
| Stability: | Stable; no known conditions to avoid. |
| Incompatibility: | No known incompatible materials. |
| Hazardous Decomposition Products: | None known. |
| Hazardous Polymerization: | Will not occur; no known conditions to avoid. |

SECTION VI: HEALTH HAZARD

Threshold Limit Values:

For **crystalline silica***:

OSHA PEL/ACGIH TLV, for respirable dust:

0.05 mg/m³ for cristobalite

0.05 mg/m³ for quartz

For **amorphous silica**:

OSHA PEL: 6 mg/m³

For **aluminum oxide**:

OSHA PEL: 15(total)mg/m³; Respirable: 5 mg/m³

ACGIH TLV: 10(total)mg/m³

Effects of Overexposure:

* This product contains crystalline silica. Prolonged exposure to dust may cause silicosis, a progressive pneumoconiosis, or other respiratory diseases. International Agency for Research on Cancer (IARC) has classified crystalline silica as a 2A carcinogen. Their study concluded that sufficient evidence for carcinogenicity exists in experimental animals and that limited evidence for carcinogenicity exists in humans.

Dust from this product at any stage of its use or during tear-out after service may, especially on long exposure, lead to lung disease unless respiratory protection is employed. Approved dust respirators (in accordance with 29 CFR Part 134) should be worn at any time that refractories are torn out after service.

While a respiratory hazard and/or nuisance dust may exist from the product itself, other foreign substances may warrant additional precautions during tear-out and disposal.

Carcinogenicity Information:

With the exception of crystalline silica, no ingredient in this product is found on either the Federal OSHA, NTP, or IARC list of carcinogens.

Emergency and First Aid Data:

Skin: Wash thoroughly with soap and water.

Inhalation of dust: Remove to fresh air.

Eyes: Flush with water for 15 minutes and get medical help.

SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

Normal Storage and Handling: Inert ceramic shape. See section IX regarding special precautions.

Normal Use: If material is cut, machined, ground, or crushed, so that dust is generated, use approved dust respirators to keep dust levels below recommended TLV/PEL levels. See OSHA 29CFR1910.1000 (Air Contaminants), and 29CFR1910.94 (Ventilation).

Steps to be Taken in Case of Leaks or Spills: Use broom and shovel or similar equipment to clean up. Avoid generating dust, and if dust is generated, see "Normal Use".

Waste Disposal Method: As supplied, product may be disposed of in an approved landfill consistent with

Federal, State, and Local regulations. Supplier can make no statement concerning disposal of used product, since product may become contaminated by hazardous materials during use.

SECTION VIII: PERSONAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved dust respirator for exposures above PEL/TLV.

Ventilation: Sufficient ventilation should be used to insure exposures below the PEL/TLV.

Protective Gloves: Recommended. Shapes may have sharp edges or be abrasive to the skin.

Eye Protection: Recommended.

Other Equipment: Steel-toed safety shoes recommended.

SECTION IX: SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: Store in dry location. If shape becomes damp or absorbs moisture, it may explode or spall upon rapid heat-up to temperatures above 212°F.

Other Precautions: None

SECTION IX: SPECIAL INFORMATION

Hazardous Materials Identification System (NFPA):

Hazard Rating:

| | |
|---------------|---|
| Health: | 1 |
| Flammability: | 0 |
| Reactivity: | 0 |
| Special: | 0 |

Where:

4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal