

# GRAYSTAR LLC

A Manufacturer and Distributor of  
Abrasive Materials and Specialty Products

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## Technical Data Sheet

**Product:** Calcined Alumina

**Description:** Calcined Alumina is produced by calcining alumina to various temperatures to control hardness, and therefore, its abrasive properties.

**Applications:** General purpose high purity alpha is traditionally used in bar and liquid compounds, and for lapping where a soft acting, broad-sized alumina can be used. High purity alpha alumina powders can be used for stone polishing, and some sizes can be used as a friction enhancing material in brake linings, and as an addition to compounds. Other sizes are used in potting compounds to disperse heat, polishing and buffing compounds and also for lapping.

### **Typical Chemical Analysis:**

|  |       |
|--|-------|
| Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ) | 98.9% |
| Silicon Dioxide (SiO <sub>2</sub> )              | 0.05% |
| Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )     | 0.02% |
| Titanium Dioxide (TiO <sub>2</sub> )             | 0.01% |
| Calcium Oxide (CaO)                              | 0.05% |
| Sodium Oxide (Na <sub>2</sub> O)                 | 0.80% |
| Magnesium Oxide (MgO)                            | 0.04% |

### **Physical Characteristics:**

|                   |                               |
|-------------------|-------------------------------|
| Crystal Form:     | Monocrystalline Alpha Alumina |
| Shape:            | Hexagonal Platelets           |
| Hardness:         | Knoop - 2000                  |
| pH                | 9.0 – 10.5                    |
| Specific Gravity: | 3.95 g/cm <sup>3</sup>        |

### **ANSI Test Methods:**

Chemistry: B74.14  
Bulk Density: B74.4  
Sizing Method: Coulter Multisizer (Microgrits/powders), and Sieve Analysis (Macrogrits)

### **Packaging & Shipping:**

Warehousing in Bluffton, SC and Niagara Falls, NY  
250lb or 300lb fiber drums  
Plastic pails, etc. for a surcharge (SC only)