



## **SAFETY DATA SHEETS (SDS)**

### **1. PRODUCT IDENTIFICATION**

**PRODUCT NAME:** **BROWN FUSED ALUMINUM OXIDE**

**SYNONYMS:** Brown Alox, Mulgrit Brown Alox, BFA, "A" Abrasive, Alodur, Alpha Alumina, Alundum, BFA, Blasting Media, Duralum, Blastite, Dynablast

**FORMULA:** Al<sub>2</sub>O<sub>3</sub> (>92%)

**RECOMMENDED USES:** For Bonded Abrasives and General Industry Applications such as; grinding, deburring, snagging, and cutting of various materials. As a Blasting Grain it is suitable for wet or dry surface preparations. Microgrit Powders are used for micro blasting, precision lapping, fine grit grinding, break lining fillers, tumbling, polishing compounds, etc.

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### **2. HAZARD IDENTIFICATION**

**HAZARD CLASSIFICATION:**

- Non-flammable brown solid grain or powder that is non-combustible and is stable.
- Abrasive particulate may cause minor Eye Irritation and/or Skin Irritation.
- Specific Target Organ Toxicity - May cause damage to lungs through prolonged or repeated exposure to dust.
- Titanium Oxide (TiO<sub>2</sub>) component is suspected of causing cancer via inhalation.



**Warning**



**HAZARD STATEMENTS:**

- Harmful if swallowed.
- May cause minor skin or eye irritation. Particulate may scratch cornea or cause other mechanical eye injury.
- Inhaled; May cause respiratory irritation through single use, or cause damage to lungs through prolonged or repeated exposure to concentrations in excess of the PEL or TVL without respiratory protection. This may also decrease the ability of the lungs to clear particulate matter which may cause shortness of breath and increase susceptibility to respiratory disease. Minor component titanium dioxide is suspected of causing cancer via inhalation.

**PREVENTION:**

- Wash hands thoroughly after use.
- Wear protective gloves and eye/face protection.
- Do not breathe dust. Do not use compressed air or dry sweeping to remove dust from work areas.
- Wear respiratory protection for concentrations in excess of the PEL or TVL.
- Store in dry area in closed containers.
- Dispose of according to applicable federal, state and local regulation.

**FIRST AID:**

- **If Swallowed:** Call doctor if you feel unwell.
- **If on Skin:** Wash with soap and water. Seek medical advice if symptoms persist.
- **If in Eyes:** Flush with warm water for 15 minutes (remove contacts if possible). Seek medical attention if symptoms persist.
- **If Inhaled:** If breathing is difficult - Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms or feels unwell - Seek immediate medical attention.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Typical Ingredient</b>	<b>CAS#</b>	<b>Weight(%)</b>	<b>PEL-OSHA (mg/m<sup>3</sup>)</b>	<b>TLV-ACGIH (mg/m<sup>3</sup>)</b>	<b>Carcinogen (Y/N)</b>
Alumina (Al <sub>2</sub> O <sub>3</sub> )	1344-28-1	92 – 96	10*	10	No
Titanium Oxide (TiO <sub>2</sub> )	13463-67-7	1 - 4	15	10	Yes**
Silicon dioxide (SiO <sub>2</sub> )	7631-86-9	0 – 2	16		No
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	1309-37-1	0 – 1.5	10	5	No
* Respirable Fraction			5	5	

\*\* Titanium Oxide is suspected of causing cancer via inhalation (Carc.2 H351)

Materials are regulated under OSHA 29 CFR 1900.1200, Hazard Communication Standard.

Source of exposure limit data; ACGIH Threshold Limit Values; (OSHA Tables Z-1-A, Z-2, Z-3)

All ingredients are listed under TSCA.

**4. FIRST-AID MEASURES**

**EYES:** Flush eyes with lukewarm water for 15 minutes, opening and closing eyelids to ensure adequate rinsing. If redness, irritation, pain, or tearing occurs, seek medical attention.

**SKIN:** Wash contaminated area with soap and water. Wash contaminated clothing. Seek medical attention if symptoms persist.

**INHALATION:** If inhalation of high concentrations occurs, move to fresh air. If breathing has stopped, a certified professional should give CPR. Seek immediate medical attention.

**INGESTION:** Do not induce vomiting unless suggested by a doctor. Seek medical attention.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT:** Not Applicable

**FLAMMABLE LIMITS:** LEL: Not Applicable UEL: Not Applicable

**AUTO IGNITION TEMPERATURES:** Not Applicable.

**EXTINGUISHING MEDIA:** Use media appropriate for surrounding fire.

**FIRE AND EXPLOSION HAZARDS:** Non-flammable, non-combustible. Product will not burn.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

**FIRE FIGHTING INSTRUCTIONS:** Firefighters should wear a NIOSH/MSHA approved full-faced self-contained breathing apparatus (SCBA) operated in positive pressure mode, and full turnout or bunker gear.

NFPA CLASSIFICATION:

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0

## 6. ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Avoid dust generation. Water mist may be added as necessary to control the level of airborne dusts. Respiratory protection for clean-up personnel depends on the level of exposure anticipated. (See Section 8. *EXPOSURE CONTROLS/PERSONAL PROTECTION*) Gently shovel or scoop into clean dry container for later recycle or disposal. Comply with Federal, State and Local regulations regarding reporting of spills and disposal.

## 7. HANDLING AND STORAGE

Store in dry area in closed containers. Storage and work areas should be periodically cleaned to minimize dust accumulation. Avoid dust inhalation and promulgation. DO NOT use compressed air or dry sweeping to remove dust from work area. Dusts should be removed using an appropriately equipped vacuum. Exhaust air should be filtered through a HEPA (high-efficiency particulate air) filter. If an appropriate vacuum is unavailable, only wet clean-up methods should be used (i.e. wet sweeping, misting, etc.) Moisture should be added as necessary to reduce exposure to airborne respirable dust. See OSHA 29 CFR 1910.94 (Ventilation) and 29 CFR 1910.1000 (Air Contaminants).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**RESPIRATORY PROTECTION:** Under normal working conditions below acceptable exposure guidelines, none is required. For concentrations above the PEL but less than 10X the PEL, a NIOSH/OSHA approved dust mist respirator should be worn. Appropriate respirator selection will be dependent upon the magnitude of exposure and should be selected in accordance with 29 CFR 1910.134 (See Section 3 for PEL (OSHA) and TLV (ACGIH) exposure limits).

**SKIN PROTECTION:** Protective gloves, as needed, to prevent skin contact.

**EYE PROTECTION:** Safety-glasses with side shields or goggles to prevent dust and particles from entering the eye. See OSHA 29 CFR 1910.133.

**OTHER:** Under dusty conditions, employees should wear coveralls or other suitable work clothing. Contaminated clothing must be vacuumed before removal. DO NOT REMOVE dust from clothing by blowing or shaking.

**ENGINEERING CONTROLS:** Use general ventilation. Local exhaust may be necessary for processes which generate large quantities of airborne dust. Keep exposures below applicable OSHA PEL's and ACGIH-TLV's.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Formula	Al <sub>2</sub> O <sub>3</sub>
Boiling Point	Not Applicable
Melting Point	2050°C
Specific Gravity (H <sub>2</sub> O = 1)	3.95
Percent Volatile	0
Evaporation Rate	None
Solubility in Water	Insoluble
Solubility in Alcohol	None

10/21/2015

EN (English US)

pH (10% slurry)  
Appearance/Odor

Not applicable  
Brown solid or powder/odorless

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal ambient conditions of temperature and pressure.

**THERMAL DECOMPOSITION:** No decomposition if used and stored to specifications.

**POSSIBLE HAZARDOUS REACTIONS:** Reacts with strong acids, oxidizing agents, and with strong alkali.

**CONDITIONS TO AVOID & INCOMPATIBLE MATERIALS:** No further relevant information available.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic metal oxide smoke.

## 11. TOXICOLOGICAL INFORMATION

**EYE:** Particulate matter may cause physical injury to the eye.

**SKIN:** May cause minor irritation.

**INHALATION:** May cause respiratory irritation through single use.  
May cause damage to lungs or pulmonary disease through prolonged/repeated exposure to dust.  
Minor component titanium dioxide (TiO<sub>2</sub>) is suspected of causing cancer via inhalation.

**INGESTION:** Ingestion of large quantities may result in gastrointestinal irritation and eventually interference with phosphate absorption which results in rickets.

## 12. ECOLOGICAL INFORMATION

**Aquatic Toxicity:** Generally not hazardous for water.

**Bioaccumulative Potential:** Does not accumulate in organisms.

**Mobility In Soil:** No further relevant information available

## 13. DISPOSAL CONSIDERATIONS

Dispose of according to applicable federal, state and local regulations.

## 14. TRANSPORT INFORMATION

U.S. Department of Transportation (D.O.T.): Not Regulated as a Hazardous Material

D.O.T. HAZARD CLASS (49 CFR 172.101): N/A

D.O.T. PROPER SHIPPING NAME (49 CFR 172.101): N/A

D.O.T. LABELS REQUIRED (49 CFR 172.101): N/A

D.O.T. PLACARDS REQUIRED: N/A

IMDG: **Not Regulated under IMDG (is not hazardous cargo for sea transportation).**

## 15. REGULATORY INFORMATION

**TSCA:** Aluminum Oxide is listed on the TSCA (Toxic Substance Control Act) inventory under CAS# 1344-28-1.

Canadian WHMIS: D2B



**EPCRA Section 302 (EHSs):** This product does not contain ingredients subject to reporting requirements of 40 CFR Part 355, Appendices A and B (Extremely Hazardous Substances).

**CERCLA, Section 304:** This product does not contain ingredients subject to state and local reporting under Section 304 of SARA Title III as listed in 40 CFR Part 302 Table 302.4.

**SARA 313 REPORTING REQUIREMENTS:** This product does not contain ingredients subject to the reporting requirements of Section 313 SARA, and Section 5607 of the Pollution Prevention Act.

**SARA HAZARD CATEGORY:** This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and by definition meets the requirements of the following category: *Acute Health Hazard*

## 16. OTHER INFORMATION & LAST REVISION DATE

### **KEY:**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
DOT	Department of Transportation
IARC	International Agency for Research on Cancer
IMDG	International Maritime Dangerous Goods
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendment and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act

### **DISCLAIMER:**

Although reasonable care has been taken in the preparation of the information contained herein, the originator and **CrystalMarkInc** extends no warranties, makes no representation and assumes no responsibility as to the accuracy of suitability of such information for application to the purchaser's intended purposes or for consequences of its use.

**LAST REVISION DATE: 10/21/2015**