



MATERIAL SAFETY DATA SHEET

MSDS #: 396

Date of Issue: 1/91

Date of Revision: 12/10

SECTION 1 -- PRODUCT IDENTIFICATION

IDENTITY (Trade Name): Resin Bonded Aluminum Oxide abrasive

SYNONYMS: Abrasive ceramic material, bonded alumina, mold stone, polishing stone.

FAMILY/CHEMICAL NAME: Oxide, Glass

PRODUCT USE: Mold and die polishing, grinding, tool sharpening, dressing of grinding and cutting wheels. Resin bonded aluminum oxide abrasives break down during use. The resulting dust is classified by OSHA as inert or nuisance dust. Data provided pertains primarily to the dust produced during and after use. **IMPORTANT:** Hazards may change when this product is used in conjunction with solvents, cutting fluids or other chemicals. For more complete information, consult the material safety data sheets of chemical products used with resin bonded aluminum oxide abrasives.

MANUFACTURER/SUPPLIER: BORIDE Engineered Abrasives
2615 Aero Park Drive
Traverse City MI 49686-9101

ORIGINAL ISSUE DATE: January 1991

TELEPHONE NUMBER: (800) 662-0336

24-HOUR EMERGENCY NUMBER: (231) 922-1959

SECTION 2 -- INGREDIENTS

MATERIAL	CAS #	WEIGHT %	TLV	Hazardous Ingredient (YES/NO)
Aluminum Oxide	1344-28-1	60-95%	10 mg/m ³	No
Cured resin	withheld	10-40%	10 mg/m ³	No

Resin identity considered a trade secret. Resin bonded aluminum oxide abrasives are ceramic articles formed or cut into rigid blocks or sticks. End use of resin bonded aluminum oxide abrasives may produce dust which is classified as inert or nuisance dust. OSHA sets TLV (threshold limit value) for nuisance dust at 10 mg/m³ for continuous exposure.



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SECTION 3 -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE, and ODOR: Solid; brown, gray or off white. Product has little odor.

ODOR THRESHOLD: Not applicable.

DENSITY: Varies; 1.8 to 2.7

VAPOR DENSITY: Not applicable.

BOILING POINT: Not applicable.

VAPOR PRESSURE: Not applicable.

FREEZING POINT: Not applicable.

EVAPORATION RATE: Not applicable.

PH: Not applicable.

SOLUBILITY IN WATER: Not applicable.

MOLECULAR WEIGHT: Not applicable.

VOLATILE ORGANIC COMPOUNDS: None in cured article.

SECTION 4 -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: During or after use, the dust resulting from breakdown of resin bonded aluminum oxide may be inhaled or come in contact with skin or eyes.

EXPOSURE LIMITS: Particulate not otherwise classified, use TLV of $10\text{mg}/\text{m}^3$ for resin bonded aluminum oxide products.

SIGNS AND SYMPTOMS OF EXPOSURE

ACUTE: Eyes: Dust can cause irritation, redness and eye watering.

Skin: No skin absorption hazard for resin bonded aluminum oxide products. May cause rash from mechanical irritation.

Inhalation (Breathing): Nuisance dust may cause coughing or sneezing.

Ingestion (Swallowing): Abrasive particles may cause irritation.

CHRONIC: Same as Acute.

MEDICAL CONDITION AGGRAVATED BY EXPOSURE: Nuisance dust may aggravate pre-existing conditions.

CARCINOGENICITY: Not a carcinogen.



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SECTION 4 -- HEALTH HAZARD DATA (cont'd)

EMERGENCY FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes lifting upper and lower lids occasionally. Seek medical attention if irritation or pain persists.

SKIN: Thoroughly wash affected area with soap and water and isolate from exposure. If irritation or rash persists, seek medical attention.

INHALATION: If symptoms of pulmonary involvement develop (coughing, sneezing, shortness of breath) remove from exposure. If condition persists seek medical attention.

OTHER HEALTH RISKS: Grinding may create sound and vibration levels that could effect hearing and aggravate circulatory problems in the hands. Obtain medical evaluation and use proper protection.

SECTION 5 -- FIRE AND EXPLOSION HAZARD DATA

EMERGENCY RESPONSE GUIDE NUMBER: None.

FLASH POINT: Not applicable for aluminum oxide abrasives.

FLAMMABLE LIMITS IN AIR: Not Known.

AUTOIGNITION TEMPERATURE: Not applicable for aluminum oxide abrasives.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None for aluminum oxide abrasives.

FIRE FIGHTING PROCEDURES: In fire conditions, do not inhale gases. Wear positive pressure self-contained breathing apparatus.

EXTINGUISHING MEDIA: Use water spray or fog, foam, dry chemical or CO₂.

HAZARDOUS COMBUSTION PRODUCTS: Complete combustion will produce carbon dioxide and carbon monoxide.

SECTION 6 -- REACTIVITY DATA

STABILITY: Stable, non reactive.

INCOMPATIBILITY (material & conditions to avoid): Keep away from open flames and other ignition sources.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.



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SECTION 7 -- PREVENTIVE MEASURES

PRECAUTIONS FOR SAFE USE AND HANDLING

HANDLING PRECAUTION: If use conditions generate airborne dust, use in well-ventilated area and avoid breathing dust. Dust should be removed by washing or vacuuming. See ANSI Standard B7.1 safety requirements for the use of abrasive grinding wheels.

PERSONAL HYGIENE: Use good personal hygiene. Wash hands before eating, drinking or smoking. Do not shake clothing, rags or other items to remove dust.

SHIPPING & STORING PRECAUTIONS: Keep away from open flames and other ignition sources.

SPILL PROCEDURES: Sweep or shovel resin bonded aluminum oxide into closable container for disposal. Use a vacuum or wet clean-up for dust.

WASTE DISPOSAL METHODS: Dispose in accordance with federal, state, provincial and local regulations.

CONTROL MEASURES

EYE PROTECTION: Goggles or safety glasses with side shields are recommended when resin bonded aluminum oxide products are used in polishing, grinding or cutting operations.

PROTECTIVE GLOVES: Recommended but not required for resin bonded aluminum oxide products.

RESPIRATORY PROTECTION: Not normally required for resin bonded aluminum oxide products. Selection and use of respiratory protective equipment, if warranted, should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 in the U.S.A. and with CSA Standard Z94.4-M1982 in Canada.

ENGINEERING CONTROLS: Provide process enclosure or local ventilation needed to maintain dust below applicable exposure limits.

OTHER PROTECTIVE EQUIPMENT: Hearing protection may be required. See OSHA 29CFR 1910.95 for noise level statutory limits and hearing protection requirements.



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SECTION 8 -- OTHER REGULATORY INFORMATION
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TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: None.

DOT HAZARD CLASS: None.

DOT ID NUMBER: None.

SARA TITLE III: Product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE LIST: Not listed

SECTION 313 TOXIC CHEMICALS LIST: Not listed

FEDERAL RCRA HAZARDOUS WASTE: No

REPORTABLE QUANTITY (RQ), UNDER U.S.: None

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