

**MATERIAL SAFETY DATA SHEET****SECTION 1 -- PRODUCT IDENTIFICATION**

IDENTITY (Trade Name): Zip Strips

SYNONYMS: Abrasive strips, bonded Alumina strips, adhesive abrasive strips.

FAMILY/CHEMICAL NAME: Oxide, Glass

PRODUCT USE: Mold and die polishing, grinding, sanding, tool sharpening. Vitrified 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 vitrified aluminum oxide abrasives.

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

B.E.A. DOCUMENT NO: 5808

ORIGINAL ISSUE DATE: March 2006

TELEPHONE NUMBER: 1(800) 662-0336

24-HOUR EMERGENCY NUMBER: 1(231) 922-1959

REVISION DATE: May 2009

**SECTION 2 -- INGREDIENTS**

MATERIAL	CAS #	WEIGHT %	TLV	Hazardous Ingredient (YES/NO)
Aluminum Oxide	1344-28-1	70-95%	10 mg/m <sup>3</sup>	no
Frit/clay bond	65997-18-4	5-30%	10 mg/m <sup>3</sup>	no

Vitrified aluminum oxide abrasives are ceramic articles. End use of vitrified aluminum oxide abrasives (grinding, sanding, etc.) may produce dust which is classified as inert or nuisance dust. OSHA sets TLV (threshold limit value) for nuisance dust at 10 mg/m<sup>3</sup> for continuous exposure.

**SECTION 3 -- PHYSICAL DATA**

PHYSICAL STATE, APPEARANCE, and ODOR: Solid; brown, reddish brown. No odor.

ODOR THRESHOLD: Not applicable. DENSITY: Varies; 1.80 to 2.70

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: No.

**MATERIAL SAFETY DATA SHEET "Zip Strips"****SECTION 4 -- HEALTH HAZARD DATA**

PRIMARY ROUTES OF EXPOSURE:	During or after use, the dust resulting from breakdown of vitrified aluminum oxide may be inhaled or come in contact with skin or eyes.
EXPOSURE LIMITS:	Particulate not otherwise classified, use TLV of 10mg/m <sup>3</sup> for vitrified aluminum oxide products.
SIGNS AND SYMPTOMS OF EXPOSURE	
ACUTE: Eyes:	Dust can cause irritation, redness and eye watering.
Skin:	No skin absorption hazard for vitrified 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 of throat or digestive tract.
CHRONIC:	Pulmonary irritation.
MEDICAL CONDITION AGGRAVATED BY EXPOSURE:	Nuisance dust may aggravate pre-existing pulmonary conditions.
CARCINOGENICITY:	Not a carcinogen.
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:	Not Applicable.
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:	Not applicable for aluminum oxide abrasives.
EXTINGUISHING MEDIA:	Not applicable for aluminum oxide abrasives.
HAZARDOUS COMBUSTION PRODUCTS:	None known.
CONDITIONS OF FLAMMABILITY:	None.

**MATERIAL SAFETY DATA SHEET "Zip Strips"****SECTION 6 -- REACTIVITY DATA**

STABILITY:	Stable, not reactive with water.
INCOMPATIBILITY (Material & Conditions to avoid):	None.
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	None known.

**SECTION 7 -- PREVENTIVE MEASURES**

## PRECAUTIONS FOR SAFE USE AND HANDLING

HANDLING PRECAUTION:	If usage 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 or smoking. Do not shake clothing, rags or other items to remove dust.
SHIPPING & STORING PRECAUTIONS:	Not Applicable for aluminum oxide abrasives.
SPILL PROCEDURES:	Sweep or shovel vitrified 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 vitrified aluminum oxide products are used in sanding or grinding operations.
PROTECTIVE GLOVES:	Recommended but not required for vitrified aluminum oxide products.
RESPIRATORY PROTECTION:	Not normally required for vitrified 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 as 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.

**MATERIAL SAFETY DATA SHEET "Zip Strips"****SECTION 8 -- OTHER REGULATORY INFORMATION**

## TRANSPORTATION INFORMATION:

DOT PROPER SHIPPING NAME: Not applicable.

DOT HAZARD CLASS: Not applicable.

DOT ID NUMBER: Not applicable.

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 #: Not listed.

REPORTABLE QUANTITY (RQ), UNDER U.S. EPA CERCLA: None, not listed.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, BORIDE Engineered Abrasives assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the material as supplied to the user.