



## SAFETY DATA SHEET

### Section 1: Identification

**Product Identifier:** AL-CEM/DB1

**Other means of identification:** Single part, water-based Alumina Adhesive paste.

**Recommended use:** Adhesive and coating of thermal and electrical insulation and other refractory materials used primarily at high temperatures.

**Manufacturer:**

ZIRCAR Ceramics, Inc.  
P.O. Box 519  
Florida, NY 10921  
[www.zircarceramics.com](http://www.zircarceramics.com)  
[sales@zircarceramics.com](mailto:sales@zircarceramics.com)  
(845) 651-6600

**Emergency Telephone Number:**

CHEMTREC: (800) 424-9300 (USA/Canada), (703) 527-3887 (International)

### Section 2: Hazards Identification

**Hazard Classification(s):** Skin Irritation - Category 2, Eye Effects - Category 2B, Respiratory Sensitizer (if dust from dried material is generated) - Category 3.

**Signal Word:** Warning.



**Precautionary Statement(s):** May cause skin, eye and respiratory irritation.

**CAUTION:** Handling or machining of products treated with these products may produce respirable dust particles. Dust may irritate eyes, skin and respiratory tract.

**Inhalation:** Dust may cause irritation or soreness of throat and nose.

**Eye Contact:** Solids contained in these materials and dust from dried material may cause temporary irritation or inflammation.

**Skin Contact:** May cause temporary dryness, irritation or rash.

**Ingestion:** Ingestion is unlikely. May cause gastrointestinal disturbances. Never induce vomiting without the advice of a physician.

**Medical Conditions Aggravated by Exposure:** Respiratory effects may be aggravated by smoking. Pre-existing respiratory problems may be aggravated by dust.

### Section 3: Composition / Information on Ingredients

#### Chemical and common names, CAS numbers and concentration

Chemical Name	Common Name	CAS Number	% by weight
Aluminium Oxide	Alumina	1344-28-1	<80
Sodium Polysilicate	Sodium Silicate	1344-09-8	<40

### Section 4: First Aid Measures

**Inhalation:** Remove to fresh air. Rinse mouth to clear throat and expel liquid. Blow nose to evacuate dust. Consult a physician if irritation persists.

**Eye Contact:** Products can be physical irritants to eyes. Do not rub eyes. Keep hands or contaminated body parts away from eyes. Remove contact lenses. Flush with water. If irritation persists, consult a physician.

**Skin Contact:** Products are irritants. Wash with soap and water. For dryness, a skin cream may be helpful. Do not apply anything to a rash. Consult a physician if irritation persists.

**Ingestion:** Drink plenty of water. Do not induce vomiting without advice of a physician. Seek medical attention.

**ADDITIONAL INFORMATION:** Note: To prepare activated charcoal slurry, add 50 grams of activated charcoal to 400 ml of water and mix well.

### Section 5: Fire Fighting Measures

**Materials are not combustible.** Use extinguishing media suitable for type of surrounding fire.

## Section 6: Accidental Release Measures

**Spill Procedures:** Liquid materials should be cleaned up using sponge, mop or cloth. Clean up procedures should minimize formation of airborne dusts. Remove dust by vacuuming using HEPA filtration where possible.

**Release into Air:** Prevent release of airborne particulates where possible. Do not blow dust around. Not a regulated hazardous substance. See Section 8 for appropriate engineering controls.

**Release into Water:** Release into water is not appropriate. Not a regulated hazardous substance.

## Section 7: Handling and Storage

**Storage:** These materials should be stored in a sealed container.

**Normal Use:** Materials are stable under normal use and are not expected to produce significant hazardous by-products or emissions. Mix thoroughly before use.

**Machining and Cutting:** After dried, these materials may produce respirable and nuisance dusts when machined or cut. See Section 8 for exposure controls and personal protection during machining or installation procedures.

**High Temperature Conditions:** Service significantly above the product design temperature may increase friability and the possibility of generating airborne dust. While not considered problematic during use, such dust may complicate removal activities. It is recommended that product use be carefully matched to design parameters.

**After Service:** Appropriate ventilation and respiratory protection should be provided in compliance with OSHA standards. Strict adherence to recommended safe work practices is advised. Product removal must consider possible pickup of contaminants found where used and the possibility of usage above design temperatures. See Section 8 for appropriate respiratory protection during removal of material the subject of this SDS.

## Section 8: Exposure Controls / Personal Protection

### Exposure Limits

#### OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

Aluminum Oxide	
ACGIH TLV STEL	10 ppm

**Appropriate Engineering Controls:** Use dust suppression controls. Local exhaust ventilation, point of generation dust collection and/or down-draft work stations to minimize airborne dust generation are recommended when machining product threatened with these materials.

**Recommendations for Personal Protective Measures**

Respiratory Protection:	Use appropriate protection pursuant to OSHA 29CFR 1910.134 and 29CFR 1926.103. The following information is provided as a guide and reflects industry recommendations for control of dust.
PPE < 1.0 f/cc	No specific recommendation, use personal protective equipment based on local conditions.
PPE 1.0 f/cc to 5.0 f/cc	Half-face, air purifying respirator equipped with a high efficiency particulate air (HEPA) filter cartridge.
PPE 5.0 to 25 f/cc	Full-face, air purifying respirator equipped with a high-efficiency particulate air (HEPA) filter cartridge
PPE > 25 f/cc	Full-face, positive pressure, supplied air respirator.
PPE Other	Work clothes should be washed separately and the washing machine rinsed following use. If possible, do not take work clothes home following machining or removal activities that produce significant amounts of dust.
Skin Protection	Wear gloves, head coverings and full body clothing to prevent skin irritation. Disposable clothing may be used. Store work clothes and street clothes separately.
Eye Protection	Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses without goggles. Do not get dust or liquids into eyes. Have eye washing facilities available when using products.

These Products are generally not hazardous during normal use. These guidelines are provided for special circumstances involved in machining use and or after service removals. See Section 7 for after service and Section 13 for disposal recommendations.

**Section 9: Physical and Chemical Properties**

**Physical and Chemical Properties**

Appearance		Odor	pH	Melting Point	Specific Gravity
Physical State	Color				
Creamy Paste when stirred	White	No Appreciable Odor	11-12	>1871°C (3400°F) Dried	2.01

Note: These materials should not be allowed to freeze. Initial boiling point and boiling range, flash point, evaporation rate, flammability, upper/lower flammability or explosive limits, vapor pressure, vapor density, partition coefficient: n-octanol/water, auto-ignition temperature, decomposition temperature and viscosity are irrelevant and/or unavailable to/for these materials.

## Section 10: Stability and Reactivity

**Chemical Stability:** Materials are stable with no possibility of hazardous polymerization. Reactions may occur. Flammable hydrogen gas may be produced on prolonged contact with metals such as Aluminum, tin, lead, and zinc.

**Chemical Incompatibilities:** Acids, salts, or alcohols may cause gel formation (non-hazardous).

**Hazardous Decomposition Products:** None

## Section 11: Toxicological Information

### Exposure Routes and Effects

**Inhalation:** Dust may cause temporary irritation or soreness of throat and nose. Dust should not be inhaled as it may cause permanent lung injury (silicosis).

**Eye Contact:** These materials may cause serious eye irritation or inflammation.

**Skin Contact:** May cause temporary dryness, irritation or rash.

**Ingestion:** Ingestion is unlikely. May cause gastrointestinal disturbances. Never induce vomiting without the advice of a physician.

**Medical Conditions Aggravated by Exposure:** Respiratory effects may be aggravated by smoking. Pre-existing respiratory problems may be aggravated by dust.

### CARCINOGENICITY

**NOTES:** Does not contain any substances greater than 0.1% listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union)

## Section 12: Ecological Information

**AQUATIC TOXICITY (ACUTE):** Sodium Silicate has low toxicity. TLM 96 hr in mosquitofish is 2,320 mg/L.

High pH (alkalinity) of undiluted material is harmful to aquatic life.

## Section 13: Disposal Consideration

**Disposal:** Consult with local, state and federal regulations. In most cases these materials may be land filled safely. For large quantities, neutralize with dilute acid and landfill solids or flush neutral liquid to sewer with plenty of water. Refer to Section 8 for instructions regarding Exposure Controls/Personal Protection.

**Hazardous Waste Classification:** Materials are not regulated hazardous materials.

**Empty Containers:** Empty containers may contain product dust or residue. Do not re-use.

#### Section 14: Transportation Information

Materials are not regulated hazardous substances, no specific regulations apply.

#### Section 15: Regulatory Information

##### UNITED STATES

##### DOT LABEL SYMBOL AND HAZARD CLASSIFICATION

R36/37/38: Irritating to eyes, respiratory system and skin.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S7/8: Keep container tightly closed and dry.

##### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**311/312 HAZARD CATEGORIES:** Irritant.

**313 REPORTABLE INGREDIENTS:** There are no listed chemicals above detection limits in this compound.

##### EPCRA SECTION 313 SUPPLIER NOTIFICATION

##### Chemical Name Wt.% CAS

Aluminum Oxide < 80 1344-28-1

**TITLE III NOTES:** None above detection limits.

##### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

##### Chemical Name Wt.% CERCLA RQ

##### TSCA (TOXIC SUBSTANCE CONTROL ACT)

##### Chemical Name CAS

Sodium Polysilicate 1344-09-8

Aluminum Oxide 1344-28-1

**CALIFORNIA PROPOSITION 65:** Known to the State of California to cause cancer and reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Act of 1986".

It has not been determined and cannot be ascertained that this product would not expose users to the listed chemicals at the very low level prescribed in the regulations. Therefore, it is the user's responsibility to determine if the percent of the hazardous / carcinogenic ingredients listed elsewhere in the SDS comply with State of California regulations.

##### CANADA

##### WHMIS HAZARD SYMBOL AND CLASSIFICATION



Toxic

R36/37/38: Irritating to eyes, respiratory system and skin.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S7/8: Keep container tightly closed and dry.

**WHMIS CLASS:** Class D, Division 2, Subdivision B: Materials cause other toxic effects, toxic material.

**DOMESTIC SUBSTANCE LIST (INVENTORY):** Components included on inventory

Section 16: Other
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Disclaimer:

The information contained herein is based on data considered to be accurate as of the preparation or revision date. It is provided in good faith and in compliance with state and federal regulations. No warranty or representation, express or implied is made as to the accuracy or completeness of this information. Other national, state and/or local regulations may apply.