



## SAFETY DATA SHEET

### Section 1: Identification

**Product Identifier:** SS

**Other means of identification:** Refractory Adhesive Type SS, Sodium Silicate Solution.

**Recommended use:** Adhesive for bonding ceramic fiber and 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):** Cat. 2 Skin Irritant, Cat. 2 Eye Irritant. Alkaline. Irritating to eyes and skin.

**Signal Word:** Warning.



**Precautionary Statement(s):** Causes skin irritation. Causes serious eye irritation. Wear protective gloves, clothing and eye protection.

**Eye Contact:** Do not get in eyes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Skin Contact:** Do not get on skin. 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
Silicic Acid	Sodium Silicate	1344-09-8	37.5
Water		7732-18-5	62.5

### Section 4: First Aid Measures

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

**Eye Contact:** Products can be serious 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.

Note to Physicians: Sodium Silicate is alkaline and irritating to eyes and skin. The toxicity of this product is dependent on the silica to alkali ration and on the ph.

### 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:** Wet spill should be cleaned up with sponge or mop. Clean up procedures should minimize formation of airborne dusts. Remove dust by vacuuming using HEPA filtration where possible. Caution, spillage may be slippery.

**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. Do not allow to enter drains, sewers or watercourses.

## Section 7: Handling and Storage

**Storage:** These materials are stable and may be stored in a sealed container for extended periods of time. Best result is used before one year from manufacture date. Do not allow to freeze. Do not store in aluminum containers.

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

**Machining and Cutting:** These materials, when dried, 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 particulates. While not considered problematic during use, airborne particulate 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

Silicic Acid	
OSHA PEL as 8 hr TWA	No occupational exposure limit assigned. An exposure limit of 2 mg/m <sup>3</sup> (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40)

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

**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				
Liquid	Nearly colorless	Odorless	11 - 12	>1871°C (3400°F)	1.41

Note: Do not allow this product to freeze, 0°C. 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.

**Chemical Incompatibilities:** Acids

**Hazardous Decomposition Products:** When arc welding vessels containing aqueous solutions of this material take care to control any explosion risk from hydrogen evolved electrolysis. Aqueous solutions will react with aluminum, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air.

## Section 11: Toxicological Information

### Exposure Routes and Effects

**Inhalation:** Mist and dust are irritating to the respiratory tract due to high alkalinity.

**Eye Contact:** Dust may cause temporary irritation or inflammation.

**Skin Contact:** Material will cause irritation.

**Ingestion:** Ingestion is unlikely. May cause gastrointestinal disturbances due to high alkalinity. 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.

### Toxicology

Silicic Acid	
Ingestion	Oral LD <sub>50</sub> (rat): 34000 mg/kg
Mist	LC50 (rat) >2.06 g/m <sup>3</sup>
Skin	Dermal LD50 (rat) >5000 mg/kg bw
Carcinogenicity by ACGIH	No Evidence

**Description of Symptoms:** See Exposure Routes and Effects, Hazard Statement(s) and Precautionary Statement(s) sections above.

## Section 12: Ecological Information

**Eco toxicological Information:** Inorganic. Soluble silicates, upon dilution, rapidly depolymerize into molecular species indistinguishable from dissolved silica.

**Chemical Fate Information:** The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.

### Section 13: Disposal Consideration

**Disposal:** Consult with local, state and federal regulations. In most cases these materials may be land filled safely. 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

**Regulated Constituents:** Silicic Acid

TSCA Inventory: Reported/Included

AICS Inventory: Reported/Included

DSL/NDSL Inventory: Reported/Included

SARA Title III Constituent: Not an extremely Hazardous Substance under sec. 302. Not a toxic chemical under sec. 313.

### Section 16: Other

**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.