

# SAFETY DATA SHEET

**Product:** 671  
**Revision Date:** 6/01/2015

## 1. MATERIAL IDENTIFICATION

**Product Name:** Ceramabond 671  
**Product Description:** White, Odorless Paste  
**Product Use:** High Temperature Adhesive  
**Manufacturer:** Aremco Products, Inc.  
707-B Executive Blvd.  
Valley Cottage, NY 10989  
**Telephone:** 845-268-0039  
**Emergency Phone:** 845-268-0039 or Infotrac (24/7) 800-535-5053

## 2. HAZARDS IDENTIFICATION

### **GHS Classification:**

Eye Irritation	Category 2A
Skin Irritation	Category 2
Carcinogenicity*	Category 1A
STOT RE, Respiratory*	Category 2

\* This product is a mixture and all powders are encapsulated. Carcinogenicity and respiratory referred to above only applies to dried liquid that may powder and become airborne.

### **GHS Symbol:**



### **GHS Signal Word:**

Warning

### **GHS Hazard Determining Components:**

Silicate Solution  
Aluminum Oxide  
Alumina-Silica Refractory Ceramic Fiber

### **GHS Hazard Statements for Health Hazards:**

H303	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H350	May Cause Cancer by Inhalation
H373	STOT RE, Respiratory

### **GHS Precautionary Statements - Prevention:**

P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe dust/fume/gas/mist/vapors/spray
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves and eye protection.
P281	Use personal protective equipment as required

### **GHS Precautionary Statements – Response:**

P302+P352	IF ON SKIN: Wash with plenty of soap and water
P332+P313	If skin irritation occurs, get medical attention
P362	Take off contaminated clothing and wash before reuse
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing
P313+P337	If eye irritation persists, get medical attention
P312	IF SWALLOWED: Call a poison center or doctor if you feel unwell
P308+P313	IF exposed or concerned: Get medical advice/attention

**GHS Precautionary Statements - Storage/Disposal:**

P501 Dispose in accordance with local, regional, national or international regulations.

**3. COMPOSITION**

Chemical	CAS No.	EC No.	Concentration	GHS Product Identifier
Silicate Solution	1312-76-1	215-687-4	10.0-20.0%	H302 Acute Toxicity, Oral, Cat 4 H315 Skin Corrosion/Irritation, Cat 2 H319 Eye Damage/Eye Irritation, Cat 2A H335 STOT, SE; Respiratory Tract Irritation, Cat 3
Alumino-Silicate Fiber	142844-00-6	604-314-4	1.0-5.0%	H315 Skin Corrosion/Irritation, Cat 2 H319 Serious Eye Damage/Eye Irritation, Cat 2A H350 May Cause Cancer by Inhalation, Cat 1B
Aluminum Oxide	1344-28-1	215-691-6	50.0-70.0%	None
Water	7732-18-5	N/A	25.0-35.0%	None

**Note**

This product is a mixture and all powders are encapsulated.

**4. FIRST AID MEASURES****After eye contact:**

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist.

**After skin contact:**

Immediately wipe excess material off skin with a dry cloth then wash with soap and water for at least 5 minutes.

**After inhalation:**

In case of inhalation due to spray mist, machining dust or dried particulate, remove source of exposure and assure that victim is breathing. If not breathing, administer cardio-pulmonary resuscitation (CPR).

**After ingestion:**

If swallowed, do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

**Medical Conditions Possibly Aggravated by Exposure:**

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

**5. FIRE FIGHTING MEASURES****Flash Point:**

Not applicable

**Flammable Limits:**

This material is non-combustible.

**Extinguishing Media:**

This material is compatible with all extinguishing media.

**Special Fire Fighting Procedures:**

Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-piece and full chemical resistant protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** This material is non-combustible.**6. ACCIDENTAL RELEASE MEASURES****Personal Protection:**

Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator where mist occurs.

**Spill Cleanup:**

Mop up and neutralize liquid, then discharge to sewer in accordance with federal, state and local regulations or permits. Flush area with water to complete cleanup. Exercise caution during neutralization as heat may be generated.

**7. HANDLING AND STORAGE****Handling:**

Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with cloth dampened with water. Promptly clean up spills.

**Storage:**

Store in an area that is cool, dry, well ventilated, away from combustible material, and away from ignition sources. Keep containers closed. Store in clean plastic or stainless steel containers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical	CAS No.	EC No.	TLV (mg/m <sup>3</sup> )	PEL (mg/m <sup>3</sup> )
Aluminum Oxide	1344-28-1	215-691-6	10	15
Alumino-Silicate, Fiber	142844-00-6	604-314-4	Not established	Not established
Silicate Solution	1344-09-8	215-687-4	No available information	No available information
Water	7732-18-5	N/A	No available information	No available information

<b>Engineering Controls:</b>	Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
<b>Respiratory Protection:</b>	This product is not considered respirable in either the liquid or cured forms. However, if the cured product is polished, ground or chipped during processing, handling or use, powders may be released as airborne respirable particles. In these instances, appropriate personal protection equipment and local ventilation controls must be employed. If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust and mist respirator is required.
<b>Skin Protection:</b>	Wear body-covering protective clothing and gloves.
<b>Eye Protection:</b>	Wear chemical goggles.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical here represent typical properties of this product. Contact Technical Sales for exact specifications.

<b>Appearance:</b>	Paste
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>pH:</b>	11.0-11.5
<b>Specific Gravity, g/cc</b>	2.05-2.15
<b>Water Solubility:</b>	Soluble
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	100 °C
<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density (air=1):</b>	No data
<b>VOC Content:</b>	0.00 lbs/gal
<b>Viscosity:</b>	30,000-80,000 cP
<b>Decomposition Temperature:</b>	Not applicable
<b>Auto-ignition Temperature</b>	Not applicable
<b>Partition Coefficient:</b>	No data
<b>Flash Point:</b>	Not applicable
<b>Flammability:</b>	Not applicable
<b>Evaporation Rate:</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	This material is stable under all conditions of use and storage.
<b>Conditions to Avoid:</b>	Prolonged contact with aluminum, brass, copper, lead, and zinc may produce flammable hydrogen gas.
<b>Materials to Avoid:</b>	Gels and heats when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas.
<b>Hazardous Decomposition Products:</b>	None.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity:</b>	<b>Component: CAS No. 1344-09-8, Silicate Solution</b> LD50 Oral, 1153 mg/kg (Rat) LD50, Inhalation, No Data LD50, Dermal, 4640 mg/kg (Rabbit)
<b>Skin Corrosion/Irritation:</b>	Irritating to skin
<b>Serious Eye Damage/Irritation:</b>	Irritating to eyes
<b>Sensitization:</b>	Not sensitizing
<b>Mutagenicity:</b>	No data
<b>Carcinogenicity:</b>	This product is not listed by IARC, NTP, OSHA, or ACGIH as a known or suspected carcinogen.
<b>Reproductive Toxicity:</b>	No data

**Acute Toxicity:**

**Component: CAS No. 142844-00-6, Alumina-Silica Refractory Ceramic Fiber (RCF)**

**Toxicokinetics, Metabolism & Distribution:**

**Basic Toxicokinetics**

Exposure is predominantly by inhalation or ingestion. Man made vitreous fibers of a similar size to RCF have not been shown to migrate from the lung and/or gut and do not become located in other parts of the body. When compared to many naturally occurring minerals, RCF has a low ability to persist and accumulate in the body (half-life of long fibers (> 20- microns) in 3 week rat inhalation test is approximately 60 days.)

**Human Toxicological Data**

In order to determine possible human health effects following RCF exposure, the University of Cincinnati has been conducting medical surveillance studies on RCF workers in the U.S. The Institute of Occupational Medicine (IOM) has conducted medical surveillance studies on RCF workers in European manufacturing facilities.

Pulmonary morbidity studies among production workers in Europe and USA have demonstrated an absence of interstitial fibrosis and no decrements in lung function associated with current exposures, but have indicated a reduction of lung capacity among smokers.

A statistically significant correlation between pleural plaques and cumulative RCF exposure was evidenced in the USA longitudinal study.

The USA mortality study did not show evidence of increased lung tumor development either in the lung parenchyma or in the pleura.

**Information on Toxicological Effects:**

**Acute Toxicity: Short Term Inhalation**

No data available: Short term tests have been undertaken to determine fiber (bio) solubility rather than toxicity; repeat dose inhalation tests have been undertaken to determine chronic toxicity and carcinogenicity.

**Acute Toxicity: Oral**

No data available: Repeated dose studies have been carried out using gavage. No effect was found.

**Skin Corrosion/Irritation:**

Not possible to obtain acute toxicity information due to the nature of the substance

**Serious Eye Damage/Irritation:**

Not possible to obtain acute toxicity information due to the nature of the substance

**Respiratory or Skin Sensitization:**

No evidence from human epidemiological studies of any respiratory or skin sensitization potential

**Germ Cell Mutagenicity:**

Method: In vitro micronucleus test  
Species: Hamster (CHO)  
Dose: 1-35 mg/ml  
Routes of Admin: In suspension  
Results: Negative

**Carcinogenicity:**

Method: Inhalation. Multi-dose.  
Species: Rat  
Dose: 3, 9 and 16 mg/m<sup>3</sup>  
Routes of Admin: Nose only inhalation  
Results: Fibrosis just reached significant levels at 16 and 9 mg/m<sup>3</sup> but not at 3 mg/m<sup>3</sup>.  
None of the parenchymal tumor incidences were higher than the historical control values for this strain of animal.

**Carcinogenicity:**

Method: Inhalation. Single dose.  
Species: Rat  
Dose: 30 mg/m<sup>3</sup>  
Routes of Admin: Nose only inhalation  
Results: This study was designed to test the chronic toxicity and Carcinogenicity of RCF at extreme exposures. Tumor incidence (incl. Mesothelioma) was raised at this dose level. The presence of overload conditions (only detected after the experiment was completed), whereby the delivered dose exceeded the clearance capability of the lung, makes meaningful conclusions in terms of hazard and risk assessment difficult.

**Carcinogenicity:**

Method: Inhalation. Single dose.

Species: Hamster

Dose: 30 mg/m<sup>3</sup>

Routes of Admin: Nose only inhalation

Results: This low quality study in hamsters produced mesothelial lesions of uncertain significance. Subsequent studies in hamsters with glass fibers indicated that the lung burdens of RCF in this experiment were between 5 and 10 times more than that need to produce overload, and the results are therefore difficult to interpret.

There are reports of injection studies with some similar materials. While some intraperitoneal injection studies reported the development of tumors in rats, the relationship of these results to classification remains controversial.

**Reproductive Toxicity:**

Method: Gavage.

Species: Rat

Dose: 250 mg/kg/day

Routes of Admin: Oral

Results: No effects were seen in an OECD 421 screening study. There are no reports of any reproductive toxic effects of mineral fibers. Exposure to these fibers is via inhalation and effects seen are in the lung. Clearance of fibers is via the gut and the feces, so exposure of the reproductive organs is extremely unlikely.

**STOT SE:** Not Applicable**STOT RE:** Not Applicable**Aspiration Haz:** Not Applicable

**Irritant:** Negative results have been obtained in animal studies (EU method B 4) for skin irritation. Inhalation exposures using the nose only route produce simultaneous heavy exposures to the eyes, but no reports of excess eye irritation exist. Animals exposed by inhalation similarly show no evidence of respiratory tract irritation. Human data confirm that only mechanical irritation, resulting in itching, occurs in humans. Screening at manufacturer's plants has failed to show any human cases of skin conditions related to fiber exposure.

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

This material is believed to be practically non-toxic to aquatic life.

**Biodegradation:**

This material is inorganic and not subject to biodegradation.

**Persistence:**

this material is believed to persist in the environment.

**Bioconcentration:**

This material is not expected to bioconcentrate in organisms.

**Physical/Chemical:**

Sinks and mixes with water. Only water will evaporate from this material.

**13. DISPOSAL CONSIDERATIONS****Disposal Method:**

Dispose in accordance with federal, state and local regulations and permits.

**14. TRANSPORTATION INFORMATION****DOT UN Status:**

The material is not a regulated hazardous material for transportation.

**15. REGULATORY INFORMATION****U.S. Federal Regulations****CERCLA:**

No CERCLA reportable quantity has been established for this material.

**TSCA:**

All ingredients of this material are listed on the TSCA inventory.

**SARA Title III****Sections 302, 304, 313:**



This product does not contain any substances reportable under these sections.

**Sections 311, 312:**

<b>Hazard Classes</b>	<b>Yes/No</b>
Fire Hazard	No
Reactivity Hazard	No
Pressure Hazard	No
Immediate Hazard	Yes
Delayed Hazard	No

<b>International Inventory</b>	<b>Status</b>
Canada (DSL)	Yes
Europe (EINECS/ELINCS)	Yes
Australia (AICS)	Yes
Japan (MITI)	Yes
South Korea (KECL)	Yes

**16. OTHER INFORMATION**

<b>NFPA Ratings (scale 0 – 4)</b>	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C	
<b>HMIS Ratings (scale 0 – 4)</b>	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C	

**Key Legend Information**

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>ARD</b>	International Agency for Research on Cancer
<b>CAS</b>	Chemical Abstract Service
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation & Liability Act
<b>DSL</b>	Domestic Substance List
<b>EC</b>	European Commission
<b>HMIS</b>	Hazardous Materials Identification System
<b>IARC</b>	International Agency for Research on Cancer
<b>ND</b>	Not Determined
<b>NE</b>	Not Established
<b>NFPA</b>	National Fire Protection Association
<b>NIOSH</b>	National Institute for Occupational Safety & Health
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>RE</b>	Repeat Exposure
<b>SARA</b>	Superfund Amendments & Reauthorization Act
<b>SARA Title III</b>	Emergency Planning & Community Right to Know Act
<b>SARA Section 302</b>	Extremely Hazardous Substances
<b>SARA Section 304</b>	Emergency Release
<b>SARA Section 311</b>	MSDS/List of Chemicals & Hazardous Inventory
<b>SARA Section 312</b>	Emergency & Hazardous Inventory
<b>SARA Section 313</b>	Toxic Chemicals & Release Reporting
<b>SE</b>	Single Exposure
<b>STEL</b>	Short Term Exposure Limit
<b>STOT</b>	Specific Target Organ Toxicity
<b>TLV</b>	Threshold Limit Value
<b>TWA</b>	Time Weighted Average

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