

SAFETY DATA SHEET

Product: 516
Revision Date: 6/01/2015

1. MATERIAL IDENTIFICATION

Product Name: Ultra-Temp 516
Product Description: Tan Colored, Odorless Paste
Product Use: High Temperature Ceramic 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
Zirconium Dioxide
Zirconium Silicate

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	1344-09-8	215-687-4	15.0-25.0 %	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
Zirconium Dioxide	1314-23-4	215-227-2	30.0-50.0%	H315 Skin Corrosion/Irritation, Cat 2 H320 Eye Irritation, Cat 2B H373 STOT, RE; Respiratory Tract Irritation, Cat 3
Zirconium Silicate	14940-68-2	239-019-6	10.0-30.0 %	H315 Skin Irritation, Cat 2 H320 Eye Irritation, Cat 2B H350 May Cause Cancer by Inhalation, Cat 1A H373 STOT RE, Respiratory, Cat 2
Water	7732-18-5	NA	25.0-35.0 %	N/A

Notes:

- 1) This product is a liquid mixture and all powders are encapsulated.
- 2) Zirconium dioxide contains traces of radioactive components with natural origin (U + Th < 0.05%).
- 3) Zirconium silicate contains traces of crystalline silica and radioactive components with natural origin (U + Th < 0.05%).

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 ³)	PEL (mg/m ³)
Silicate Solution	1344-09-8	215-687-4	No available information	No available information
Zirconium Dioxide	1314-23-4	215-227-2	5	10
Zirconium Silicate	14940-68-2	239-019-6	5	5
Water	7732-18-5	NA	No available information	No available information

Engineering Controls:	Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
Respiratory Protection:	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.
Skin Protection:	Wear body-covering protective clothing and gloves.
Eye Protection:	Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance:	Paste
Color:	Tan
Odor Threshold:	No available information
Odor:	Odorless
pH:	11.0-11.5
Specific Gravity, g/cc	2.17-2.29
Water Solubility:	Soluble
Melting Point:	Not applicable
Boiling Point:	100 °C
Vapor Pressure:	Not applicable
Vapor Density (air=1):	No data
VOC Content:	0.00 lbs/gal
Viscosity:	40,000-70,000 cP
Decomposition Temperature:	Not applicable
Auto-ignition Temperature	Not applicable
Partition Coefficient:	No data
Flash Point:	Not applicable
Flammability:	Not applicable
Evaporation Rate:	Not applicable

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

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

Acute Toxicity:

Component: CAS No. 14940-68-2, Zirconium Silicate
No Data

Chronic Toxicity:

Zircon contains naturally occurring radioactive materials (NORM) in the uranium and thorium series, in equilibrium, at typical specific activities of 0.3 to 0.7 Bq/g thorium (85-165 ppm) and 0.3 to 3.5 Bq/g uranium (28-281 ppm). Zircon is exempt from Nuclear Regulatory Commission (NRC) regulations for source material per 10 CFR 40, since it falls under the definition of "unimportant quantity source material" containing less than 0.05% uranium or thorium. The main radiological hazard from the product is internal exposure from small amounts of alpha particles given off by inhaled dust. Industrial hygiene practices aimed at control of airborne dust can lessen the potential for exposure. Overexposure by inhalation to inhaled dusts containing radioactive uranium or thorium may cause lung cancer. Low level gamma radiation in proximity to bulk stockpiles of zircon may present a lesser, external exposure that can be managed by limiting close proximity for long time periods to large volumes of material. IARC and NTP do not list Zircon as a carcinogen.

This product contains < 0.5% crystalline silica; once inhaled, cristobalite can remain in the lungs causing scarring, stiffening and difficulty breathing. The most common type of silicosis develops following repeated inhalation over time. Repeated inhalation of crystalline silica can also increase the risks of developing respiratory cancer. Avoid dust creation. Do not inhale dusts from this product. Do not use compressed air or dry sweeping to remove dusts from the work area. Use wet clean-up methods to remove dusts. IARC and NTP classify respirable crystalline silica as a confirmed or known human carcinogen. Although OSHA has not promulgated a specific standard for crystalline silica, materials that contain >= 0.1% crystalline silica should be treated as a confirmed carcinogen for hazard communication purposes.

Acute silicosis has been reported for exposure to extremely high crystalline silica concentrations particularly when the particle size of the dust is very small. Acute silicosis is rapidly progressive with diffuse pulmonary involvement and does not form classical silicotic nodules. The disease is often complicated by tuberculosis and can develop only months after the initial exposure with the possibility of death within 1 or 2 years. This product contains < 0.50% crystalline silica. Acute silicosis may not occur at the concentrations present.

Silica particles <10 microns are considered respirable; however, particles retained in the lungs are generally much smaller. Silica particles retained in the human lung have median diameters of 0.5-0.7 microns.

Classic silicosis is characterized by the formation of scattered silica containing nodules of scar tissue in the lungs ranging in size from microscopic to greater than 1 cm. Simple silicosis (nodules < 1 cm) is generally asymptomatic but may progress to debilitating complicated silicosis (nodules > 1 cm) with or without continued exposure. Historically, workers who developed silicosis had greatly increased risks of developing an accompanying tuberculosis infection (silicotuberculosis).

IARC has found inadequate evidence to link exposure to amorphous silica to cancer in animals. Limited data is available concerning the health effects of fused silica in animals or humans; however, animal studies indicate a fibrogenic potential less than that of quartz. IARC has found inadequate evidence to link exposure to amorphous silica to cancer in animals.

Overexposure by inhalation to inhaled dusts containing radioactive uranium or thorium may cause lung cancer. Low level gamma radiation in proximity to bulk stockpiles of zircon may present a lesser, external exposure that can be managed by limiting close proximity for long time periods to large volumes of material. IARC and NTP do not list Zircon as a carcinogen.

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:

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

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

16. OTHER INFORMATION

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

Key Legend Information

ACGIH	American Conference of Governmental Industrial Hygienists
ARD	International Agency for Research on Cancer
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
DSL	Domestic Substance List
EC	European Commission
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
ND	Not Determined
NE	Not Established
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RE	Repeat Exposure

SARA	Superfund Amendments & Reauthorization Act
SARA Title III	Emergency Planning & Community Right to Know Act
SARA Section 302	Extremely Hazardous Substances
SARA Section 304	Emergency Release
SARA Section 311	MSDS/List of Chemicals & Hazardous Inventory
SARA Section 312	Emergency & Hazardous Inventory
SARA Section 313	Toxic Chemicals & Release Reporting
SE	Single Exposure
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TWA	Time Weighted Average

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