

# SAFETY DATA SHEET

**Product:** 645-N  
**Revision Date:** 6/01/2015

## 1. MATERIAL IDENTIFICATION

**Product Name:** Ceramacast 645-N  
**Product Description:** Off-White Odorless Powder  
**Product Use:** High Temperature Ceramic Potting Compound  
**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, Inhalation	Category 1A
STOT RE, Respiratory	Category 2

### **GHS Symbol:**



### **GHS Signal Word:**

Danger

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

Silicon Dioxide, Fused  
Zirconium Silicate  
Magnesium Oxide  
Magnesium Phosphate

### **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	May cause damage to lungs through prolonged or repeated exposure.

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

P260	Do not breath dust
P264	Wash hands thoroughly after handling
P270	Do not eat or drink when using this product.
P280	Wear protective gloves. Wear eye protection.
P284	Wear respiratory protection

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

P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338	IF IN EYES: Remove contact lenses, if present and easy to do. Rinse cautiously with water for several minutes.
P362	Take off contaminated clothing and wash before reuse.

### **GHS Storage/Disposal:**

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

Chemical	CAS No.	EC No.	Concentration	GHS Product Identifier
Silicon Dioxide, Fused	7631-86-9	231-545-4	40.0-75.0 %	H319 Serious Eye Damage/Irritation, Cat 2A H335 STOT, SE; Respiratory Tract Irritation, Cat 3
Zirconium Silicate	14940-68-2	239-019-6	5.0-10.0 %	H315 Skin Irritation, Cat 2 H320 Eye Irritation, Cat 2B H350 May Cause Cancer by Inhalation, Cat 1A H373 STOT RE, Respiratory, Cat 2
Magnesium Phosphate Mono Basic	13092-66-5	236-004-6	5.0-15.0 %	None
Magnesium Oxide	1309-48-4	215-171-9	5.0-20.0 %	None

**Note**

Zirconium Silicate contains traces of crystalline silica and 0.0028-0.028% Uranium and 0.0085-0.015% Thorium, which exists in complex mineralogical phase within zircon. Fused silica also contains < 1.0% crystalline silica.

### 4. FIRST AID MEASURES

**Eye Exposure:**

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. If a physician is not immediately available, eye irrigation should be continued for an additional 15 minutes.

**Skin Exposure:**

Immediately wipe excess material off skin with a dry cloth then wash with plenty of soap and water for at least 5 minutes. See medical attention if irritation develops or persists. Remove contaminated clothing and shoes and clean thoroughly before re-use.

**Inhalation:**

Remove from immediate source of exposure and assure that victim is breathing. If not breathing, administer cardio-pulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Seek medical attention.

**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. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

**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:** Not applicable.  
**Special Fire Fighting Procedures:** Not applicable.  
**Unusual Fire and Explosion Hazards:** This material is non-combustible.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Protection:** Wear goggles, protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator to prevent inhalation of dust.  
**Spill Cleanup:** Collect material with precaution against breathing dust and dispose in accordance with federal, state and local regulations.

### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing dust. 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, and well ventilated. Keep containers closed. Store in clean plastic or metal containers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical	CAS No.	EC No.	TLV (mg/m <sup>3</sup> )	PEL (mg/m <sup>3</sup> )
Silicon Dioxide	7631-86-91	231-545-4	10	Not established
Zirconium Silicate	14940-68-2	239-019-6	5	5
Magnesium Phosphate Mono Basic	7757-86-0	236-004-6	10	15
Magnesium Oxide	1309-48-4	215-171-9	10	15

<b>Engineering Controls:</b>	Use with adequate ventilation; mechanical dust collector is recommended. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
<b>Respiratory Protection:</b>	If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust respirator is recommended.
<b>Skin Protection:</b>	Wear 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>	Powder
<b>Color:</b>	Off-White
<b>Odor:</b>	Odorless
<b>Specific Gravity, g/cc</b>	1.45-1.55 (Post-Cure)
<b>Water Solubility:</b>	~10%
<b>Melting Point:</b>	Not available
<b>Boiling Point:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density (air=1):</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>	Keep exposure to dust levels below TLV. Avoid rapid heating of the cement that may cause spalling or eruption due to vaporization of water.
<b>Materials to Avoid:</b>	BrCL3 and BrF3.
<b>Hazardous Decomposition Products:</b>	None.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity:** Component: CAS No. 14940-68-2, Zirconium Silicate  
This product contains a high percentage of zirconium silicate and trace levels of crystalline silica.

Component: CAS No. 14808-60-7 (Crystalline Silica)  
This product contains fused silica, which consists of < 1.0% crystalline silica.

No acute 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 of 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. Acute silicosis may not occur at the concentrations present. Acute silicosis has been reported for exposure to extremely high crystalline silica concentrations particularly when the particle size of the dust is very small. 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. 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.

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). 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.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not tested  
**Environmental Fate:** Not tested  
**Physical/Chemical:** Sinks and mixes with water.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Method:** Dispose in accordance with federal, state and local rules, regulations and laws.

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

### 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>HMIS</b>	Hazardous Materials Identification System
<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>RTECS</b>	Registry of Toxic Effects of Chemical Substances
<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>STEL</b>	Short Term Exposure Limit
<b>TLV</b>	Threshold Limit Value
<b>TWA</b>	Time Weighted Average

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