

SECTION I: Product and Manufacturer Identification
Product Name:
Apelco Sealing Cement

Emergency Number:
(254) 289-2118

Manufacturer:
EGS Electrical Group
9377 West Higgins Road
Rosemont, IL 60018

Information Number:
(254) 968-6071 Ext. 202

Item Number: CO4, C08, C1, C2, C3, C10

Product Description: Filler

Chemical Family: Magnesium Oxide Cement

Date Issued: January 29, 2007

Revision Date: June 25, 2008

***Product Use:** High temperature bonding/adhesive compounds.

SECTION II: Composition and Data on Components

Component	CAS Number	ACGIH TLV	OSHA PEL	% WT	Notes
Magnesium Oxide	1309-48-4	10 mg/m ³ (Dust)	10 mg/m ³ (Dust)	<38%	
Silica, Crystalline	14808-60-7	0.025 mg/m ³ TWA	0.01 mg/m ³ STEL	<38%	
Magnesium Sulfate Heptahydrate	7487-88-9	NE (TWA)	NE (STEL)	<38%	

***Exposure values shown for guidance only. Please follow applicable regulations.**
SECTION III: Physical Data
Hazardous Materials Identification System (HMIS):

Health	Flammability	Physical Hazard	Personal Protection
1	0	0	E

Chronic Effects:

The adverse health effects—silicosis, lung cancer, autoimmune and chronic kidney diseases, tuberculosis, and on-malignant respiratory diseases—are chronic effects.

Lung Cancer:

Crystalline Silica (Quartz) inhaled from occupational sources is classified as carcinogenic to humans.

Tuberculosis:

Silicosis increases the risk of tuberculosis.

Autoimmune and Chronic Kidney Diseases:

Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end stage kidney disease in workers exposed to respirable crystalline silica.

Non-Malignant Respiratory Diseases (other than silicosis):

Some studies show an increased incidence in chronic bronchitis and emphysema in workers exposed to respirable crystalline silica.

Threshold Limit Value:

NE

Effects of Overexposure:

Since this product is a mixture, there is no exposure limit established for it. Hazardous components are listed in Section 2. Causes eye and skin irritation. May cause allergic skin reaction. Specific health hazards from the various ingredients include:

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Quartz:

Skin contact and inhalations are expected to be the primary routes of occupational exposure to this material. Repeated and prolonged inhalation of this material may cause a form of disabling lung disease (commonly known as silicosis). Clinical signs and symptoms of silicosis include cough, shortness of breath, wheezing, and impairment of lung function. Impairment of lung function may be progressive. In the usual case of silicosis, there is a slow deterioration of capacity for physical effort, decreased chest expansion, and an increased susceptibility to tuberculosis and other respiratory infections. This material inhaled in the form of quartz is classified as "carcinogenic to humans" by the international Agency for Research on Cancer (IARC) and respirable forms of this material are listed as substances that "may reasonably be anticipated to be carcinogens" by the national Toxicology Program.

SECTION IV: First Aid Measures**Eye Contact:**

Flush eyes immediately with water or physiological saline for at least 15 minutes while lifting upper and lower lids. Seek medical attention.

Ingestion:

If swallowed, induce vomiting as directed by medical personnel. Seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation:

If difficulty breathing, move to fresh air at once. Apply artificial respiration if breathing has stopped. Seek medical attention.

Skin Contact:

Wash with soap and plenty of water.

SECTION V: Health Hazard Information

Auto-Ignition Temperature: N/A

Fire and Explosion Hazards: N/A

Fire-Fighting Procedures: N/A

Flashpoint: N/A

Flammable Limits LEL: N/A

Flammable Limits UEL: N/A

Explosion Data:

Not sensitive to mechanical impact or static discharge.

Extinguishing Media:

N/A

Note: Many dusts and aerosols may exhibit explosive characteristics if ignited by static discharge or spark. Exercise care to avoid causing dusting or misting.

Flammability:

Not flammable in the presence of open flame, sparks, excessive heat, and static discharge.

SECTION VI: Accidental Release Measures**Clean-up Procedure:**

Sweep, scoop, or vacuum the discharged material. Respiratory protection should be worn at all times and skin contact should be avoided. Observe environmental regulations.

SECTION VII: Handling and Storage

Avoid contact with eyes, skin, and clothing.

Avoid breathing dust.

For industrial use only!

Harmful if inhaled.

Do not take internally.

May cause irritation.

Wear chemical splash goggles, gloves, and protective clothing.

Use adequate ventilation and employ respiratory protection where dust may be generated.

Wash thoroughly after handling.

Store in a cool, dry place.

Keep container closed when not in use.

Keep away from food and drinking water.

Always mix well before using.

Store in a well-ventilated place.

Precautions During Handling and Use:

Do not breathe dust. Keep airborne dust concentrations below permissible exposure limit ("PEL"). Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty.

SECTION VIII: Exposure Controls and Personal Protection

See Section 2 for the components that have limit values that require monitoring at the workplace.* This product contains encapsulated silica. By OSHA letter of interpretation, the silica is not considered respirable in either the cement paste form or cured cement form. However, if the cured cement is polished ground or chipped during processing, handling or use, the silica may be released as an airborne respirable particle. In these instances appropriate personal protection equipment and local ventilation controls must be employed.

Crystalline Silica (quartz):

ACGIH TLV/TWA-.05mg/m³—NIOSH PEL/TWA-.05mg/m³

The OSHA PEL for crystalline silica as trydimite or cristobalite is one half of the OSHA PEL for crystalline silica (quartz).

Eye Protection:

Safety glasses with side shields, chemical-type goggles, or face shield. Contact lenses should not be worn.

Respiratory Protection:

Use dust respirators in compliance with OSHA Standard 1910.134. For emergency, a self-contained positive pressure, breathing apparatus or full-face respirator is recommended. If TLV of any component is exceeded, use appropriate respiratory protection or ventilate in accordance with OSHA Regulation 29 CFR Part 1910.

Skin Protection:

Impervious gloves, neoprene, or other suitable long-sleeved and legged clothing.

Ventilation:

Adequate general and local exhaust. Breathing of vapors must be avoided.

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SECTION IX: Physical and Chemical Properties**% Volatile by Volume:** N/A**Appearance & Odor:** White to tan granular powder.**Boiling Point:** 4046° F (2230° C)**Coefficient of Water/Oil Distribution:** Not Available**Evaporation Rate:** N/A**Melting Point:** 3110° F**Odor Threshold:** Not Available**pH:** 10**Specific Gravity:** N/A**Solubility in Water:** Slight**Vapor Density:** N/A**Vapor Pressure:** N/A**SECTION X: Stability and Reactivity****Conditions to Avoid:**

None

Hazardous Decomposition Products:

Silica will dissolve in hydrofluoric acid and product a corrosive gas—silicon tetrafluoride.

Hazardous Polymerization:

Will not occur.

Incompatibility (Materials to Avoid):

Avoid contact with strong bases, hydrofluoric acids, fluorine, and fluorine compounds.

Stability:

Stable

Section XI: Toxicological Information**ACGIH:** Not Available**IARC:** Yes**Effects of Acute Exposure:** Refer to Section 3**Effects of Chronic Exposure:** Refer to Section 3**Mutagenic Effects:**

If not addressed in Section 3, the data is not available.

Reproductive Toxicity:

If not addressed in Section 3, the data is not available.

Teratogenic Effects:

If not addressed in Section 3, the data is not available.

Name(s) of Toxicologically Synergistic Products and Effects:

If not addressed in Section 3, data is not available.

LC50/LD50: There is no data available**Eye Irritant:** Yes**Ingestion Irritant:** Yes**Inhalation Irritant:** Yes**Inhalation Irritant:** Yes**Respiratory Sensitizer:** No**Skin Irritant:** Yes**Skin Sensitizer:** No

The method of exposure to crystalline silica that can lead to the adverse health effects described below is inhalation.

A. Silicosis

The major concern in silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (Often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.

Acute Silicosis can occur with exposure to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, and weight loss. Acute silicosis is fatal.

B. Cancer

IARC—The International Agency for Research and Cancer (“IARC”) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources,” and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite.” The overall IARC evaluation was that “crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).” The IARC evaluation noted that “carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, “silica, Some silicates...” (1997).

NTP: The National Toxicology Program, in its Ninth Annual Report on Carcinogens, classified “silica, crystalline (respirable)” as a known human carcinogen.

OSHA: Crystalline Silica (Quartz) is not regulated by the US Occupational Safety and Health Administration as a Carcinogen.

C. Autoimmune Diseases

Several studies have reported excess cases of several autoimmune disorders,--scleroderma, systemic lupus erythematosus, rheumatoid arthritis—among silica-exposed workers. For a review of the subject, the following may be consulted: “Occupational Exposure to Crystalline Silica and Autoimmune Disease,” Environmental Health Perspectives, Volume 107, Supplement 5, pp. 793-802 (1999); “Occupational Scleroderma,” Current Opinion in Rheumatology, Volume 11, pp. 490-494 (1999).

D. Tuberculosis

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, entitled “Silicosis and Related Diseases,” Parkes, W. Raymond (1994) “Risk of pulmonary tuberculosis relative to silicosis and exposure to silica dust in South African gold miners,” Occup Environ med., Volume 55, pp. 496-505 (1998).

E. Kidney Disease

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: “Kidney Disease and Silicosis,” Nephron, Volume 85, pp. 14-19 (2000).

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F. Non-Malignant Respiratory Diseases

The reader is referred to section 3.5 of the NIOSH special hazard review cited below, for the information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema, and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and on-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exists only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in dust.)

SECTION XII: Ecological Information

Crystalline silica (quartz) is not known to be an environmental hazard. Crystalline silica (quartz) is not known to be ecotoxic; i.e., there are no data that suggest that crystalline silica (quartz) is toxic to birds, fish, invertebrates, microorganisms or plants.

SECTION XIII: Disposal Consideration**General:**

The packaging and material may be landfilled; however, material should be covered to minimize generation of airborne dust.

RCRA:

Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR 261 et seq.

Waste Disposal:

Material should be disposed of in accordance with Federal, state, and local environmental regulations.

European Community Waste Disposal Key:

Not known

Unclean Packaging:

Disposal must be made according to official regulations.

SECTION XIV: Transport Information

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the US Department of Transportation Table of Hazardous Materials, 40 CFR 172.101

DOT I.D. No: Not regulated

DOT Shipping Name: N/A

DOT Hazard Class: Not regulated

Other: N/A

NMF Classification: Cement acidproof building

SECTION XV: Regulatory Information**U.S. Federal Regulations:****TSCA Status:**

Components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

SARA Title III:

Section 302 Extremely hazardous Substances: None above detectable limits.

Section 311/312 (40 CFR 370) Hazardous Categories:

Acute; Chronic; Irritant

Section 313 Toxic Categories (40 CFR 370) Toxic chemicals above "De Minimis" level are:

There are no listed chemicals above detection limits in this compound.

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Cercla:

None

State Regulations:**California:**

Proposition 65 substances (components) 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 levels prescribed in the regulations. Therefore, it is the user's responsibility to determine if the percent of hazardous/carcinogenic ingredients listed elsewhere in the MSDS comply with State of California regulations.

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by CPR.

Canada:**DSL:**

Component included on inventory.

WHMIS Hazard Class(ES):

Class D, Division 2, Subdivision A: Materials cause other toxic effects, very toxic material.

WHMIS Trade Secret Registry Number(s):

No data

WHMIS Symbols:

Stylized T

European Economic Community (EEC):

EINECS Inventory: Data not available.

EEC Symbol(s):

Irritant

EINECS No: 238-878-4

IARC: Crystalline silica (quartz) is classified in IARC Group 1.

TSCA No: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.

RCRA:

Crystalline silica (quartz) is not classified as a hazardous waste under the resource conservation and recovery act, or its regulations, 40 CFR 261 et seq.

CERCLA:

Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the comprehensive environmental response compensation and liability act (CERCLA), 40 CFR 302.

Emergency Planning and Community Right o Know Act (SARA Title III):

Crystalline silica (quartz) is not an extremely hazardous substance under section 302 and is not a toxic chemical subject to the requirements of section 313.

Clean Air Act:

Crystalline silica (quartz) used EGS Electrical Group is not processed with or does not contain any Class I or Class II ozone depleting substances.

FDA:

Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR 175.300(b) (3) (xxvi).

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NTP:

Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as known to be a human carcinogen.

OSHA Carcinogen:

Crystalline silica (quartz) is not listed.

California Proposition 65:

"Warning: this product contains a chemical, crystalline silica, known to the state of the California and other state and regional authorities to cause cancer.

California Inhalation Reference Exposure Level (REL):

California established a chronic REL of 3 ug for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act:

Silica, crystalline (respirable size, <10microns) is toxic for purposes of the Massachusetts Toxic Use Reduction Act.

Pennsylvania Worker and Community Right to Know Act:

Quartz is a hazardous substance under the act, but it is not a special hazardous substance or an environmental hazardous substance.

EEC Risk ® Phrases:

Harmful: Possible risk of irreversible effects through inhalation.

Harmful: Danger of serious damage to health by prolonged exposure.

EEC Safety Phrases:

Do not breathe dust.

In case of insufficient ventilation, wear suitable respiratory equipment.

Notice

The information and recommendations herein are, to the best of EGS Electrical Group's knowledge and belief, accurate and reliable as of the date issued and are offered for the user's consideration and examination. EGS Electrical Group does not warrant or guarantee their accuracy or reliability and shall not be liable for any loss or damage arising out of the use thereof. It is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

The Environmental Information included herein as well as the Hazardous Materials Identification System (HMIS) ratings have been included by EGS Electrical Group in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with EGS Electrical Group's interpretation of the available data.

Prepared by: James H. Sommer, P.E.

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