

Material Safety Data Sheet

Product: Ultra White Crushed Marble Sand

MSDS Date: 7/27/03
Product Name: Ultra White Crushed Marble Sand
Manufacturer: Universal White Cement Company, Inc.

I. Product and Company Description

Universal White Cement Company, Inc.
P.O. Box 0579
Glendale, AZ 85311

For Product Information/Emergency Phone:
623-915-1813

Chemical Name or Synonym:
None

II. Chemical Composition

Component	CAS#	%Composition
Ground Limestone	1317-65-3	>97
Crystalline Silica Quartz	14808-60-7	0.1-2.5
Water	NA	>1

III. Hazards Identification

Potential Health Effects:

Acute Eye:
May cause irritation.

Acute Skin:
Prolonged or repeated exposure may cause irritation.

Acute Inhalation:
May cause respiratory irritation.

Acute ingestion:
No adverse effects anticipated under normal use conditions.

Chronic effects:
The adverse health effects from crystalline silica exposure - silicosis, cancer, scleroderma, tuberculosis, and nephrotoxicity - are chronic effects.

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IV. First Aid Measures

First Aid Measures for Accidental:

Eye Exposure:

Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops, SEEK MEDICAL ATTENTION.

Skin Exposure:

Flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention. Wash clothing and thoroughly clean shoes before reuse.

Inhalation:

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. SEEK MEDICAL ATTENTION.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. SEEK MEDICAL ATTENTION.

V. Fire Fighting Measures

Fire Hazard Data:

Autoignition: ND

Flash Point: ND

Flammability Limits (vol/vol%):	Lower:	Upper:
	ND	ND

Extinguishing Media:

Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedures:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Unusual Fire and Explosion Hazards:

None

Hazardous Decomposition Materials (Under Fire Conditions):

None

VI. Accidental Release Measures

Cleanup and Disposal of Spill:

Contain spill and place in waste container. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

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VII. Handling and Storage

Handling/Storage:
Keep in a tightly closed container, stored in a cool, dry, ventilated area.

VIII. Exposure Controls / Personal Protection

Exposure Guidelines:

Component	ACGIH	NIOSH	OSHA-PELs
Ground Limestone	2 mg/m ³ TWA	ND	5 mg/m ³ TWA
Crystalline Silica Quartz	0.1 mg/m ³ TWA	0.05 mg/m ³ TWA	250 mppcf; 0.1 mg/m ³ TWA
Water	ND	ND	ND

Engineering Controls:
Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS.

Respiratory Protection:
The following chart specifies the types of respirators which may provide respiratory protection for dust containing crystalline silica (quartz).

CONDITION Particulate Concentration	MINIMUM RESPIRATORY PROTECTION* <small>*Use only NIOSH-approved equipment. See 42 CFR §84</small>
5 x PEL or less	Any particulate respirator.
10 x PEL or less	Any particulate respirator, except single-use or quarter-mask respirator. Any fume respirator or high efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus.
50 x PEL or less	A high efficiency particulate filter respirator with a full facepiece. Any supplied-air respirator with a full facepiece, helmet, or hood. Any self-contained breathing apparatus with a full facepiece.
500 x PEL or less	A powered air-purifying respirator with a high efficiency particulate filter. A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous -flow mode.
Greater than 500 x PEL or entry and escape from unknown concentrations.	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode. A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Also see ANSI standard Z88.2 (latest revision) *American National Standard for Respiratory Protection*.

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Eye / Face Protection:

Use chemical safety goggles and/or a full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection:

Wear appropriate protective clothing and chemical resistant gloves to prevent skin contact. Consult the glove/clothing manufacturer to determine the appropriate type of glove/clothing for a given application. Wash immediately if skin is contaminated. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

IX. Physical and Chemical Properties

Physical Appearance: Colorless Powder

Odor: None

pH: 9-10

Specific Gravity: 2.7

Water Solubility: 1.4 mg/100 ml@25 deg C

Melting Point: 825 deg C

Freezing Point ND

Boiling Point: ND

Vapor Pressure: N/A

Vapor Density: ND

Percent Volatiles by Volume: ND

Evaporation Rate: ND

Viscosity: ND

Density: ND

X. Stability and Reactivity

Chemical Stability:

Stable

Conditions to Avoid:

None

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Materials / Chemicals to Be Avoided:

Contact with acids will produce a violent, exothermic reaction and may evolve toxic gases or vapors, depending upon the acid involved. Oxidizers and chlorinated hydrocarbons are also incompatible with this product.

Hazardous Decomposition Products:

Oxides of carbon

Hazardous Polymerization:

Will not occur.

XI. Toxicological Information

SILICOSIS

The major concern is ***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 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 the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and progression is more rapid.

Acute silicosis can occur with exposures 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.

CANCER

The International Agency for Research on 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

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detected in all industrial circumstances studied. 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).

The National Toxicology Program (NTP), in its *Ninth Annual Report on Carcinogens*, concluded that silica, crystalline (respirable) is "known to be a carcinogen, based on sufficient evidence in experimental animals and in humans."

The U.S. Occupational Safety and Health Administration (OSHA) does not regulate crystalline silica (quartz) as a carcinogen.

There is substantial literature on the issues of the carcinogenicity of crystalline silica, which the reader should consult for additional information. A summary of the literature is set forth in *Exposure to Crystalline Silica & Risk of Lung Cancer: The Epidemiological Evidence, Thorax*, Volume 51, pp. 97-102 (1996). The official statement of the American Thoracic Society on the issue of silica carcinogenicity was published in *Adverse Effects of Crystalline Silica Exposure, American Journal of Respiratory and Critical Care Medicine*, Vol. 155, pp. 761-765 (1997). The official statement concluded that "The available data support the conclusion that silicosis produces increased risk for bronchogenic carcinoma. The cancer risk may also be increased by smoking and other carcinogens in the workplace. Epidemiologic studies provide convincing evidence for increased cancer risk among tobacco smokers with silicosis. Less information is available for never-smokers and for workers exposed to silica but who do not have silicosis. For workers with silicosis, the risks for lung cancer are relatively high and consistent among various countries and investigators. Silicosis should be considered a condition that predisposes workers to an increased risk of lung cancer." Id. at 763.

SCLERODERMA

There is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skin and other internal organs. Recently, the American Thoracic Society noted that "there is persuasive evidence relating scleroderma to occupational silica exposures in settings where there is appreciable silicosis risk" The following may be consulted for additional information on silica, silicosis and scleroderma (also known as progressive systemic sclerosis): Occupational Lung Disorders, Third Edition, Chapter 12, entitled *Silicosis and Related Diseases*, Parkes, W. Raymond (1994); *Adverse Effects of Crystalline Silica Exposure, American Journal of Respiratory and Critical Care Medicine*, Vol. 155, pp. 761-765 (1997).

TUBERCULOSIS

Individuals with silicosis are at increased risk to develop tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, *Silicosis & Related Diseases*, Parkes, W. Raymond (1994). *Adverse Effects of Crystalline Silica Exposure, American Journal of Respiratory and Critical Care Medicine*, Vol. 155, pp. 761-765 (1997).

NEPHROTOXICITY

There are several recent studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of kidney disorders. The following

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may be consulted for additional information on silica, silicosis and nephrotoxicity: Occupational Lung Disorders, Third Edition, Chapter 12, *Silicosis & Related Diseases*, Parkes, W. Raymond (1994); *Further Evidence of Human Silica Nephrotoxicity in Occupationally Exposed Workers*, British Journal of Industrial Medicine, Vol. 50, No. 10, pp. 907-912 (1993); *Adverse Effects of Crystalline Silica Exposure*, American Journal of Respiratory and Critical Care Medicine, Vol. 155, pp. 761-765 (1997).

XII. Ecological Information

Ecotoxicological Information:

Degradation: Not Determined
Accumulation: Not Determined
Fish-Toxicity: Not Determined

Chemical Fate Information:

Not Determined

XIII. Disposal Considerations

Waste Disposal Method:

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

XIV. Transportation Information

US Department of Transportation Shipping Name:

US Department of Transportation	Proper Shipping Name	Not Regulated
	Hazard Class	Not Regulated
	ID Number	Not Regulated
	Packaging Group	Not Regulated

XV. Regulatory Information

Federal Regulations:

SARA Title III Hazard Classes:

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: Yes

TSCA

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All components of this product are on the TSCA inventory or are exempt from TSCA Inventory requirements

Other Regulations:

None

XVI. Other Information

National Paint & Coating Hazardous Materials Identification System – HMIS(R):

Health Hazard:	1
Flammability:	0
Reactivity:	0

Key Legend Information:

N/A – Not Applicable

ND – Not Determined

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

PEL – Permissible Exposure Limit

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

NTP – National Toxicology Program

IARC – International Agency for Research on Cancer

The information contained herein is based on the data available to us and is believed to be correct. However Universal White Cement Company, Inc. makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.