

BRIDGE DECK & ROADWAY REHABILITATION SYSTEMS

MSDS: AGGREGATES

Emergency Phone Number: 800-373-7542

SECTION 1 IDENTIFICATION

Product Name: EC Sand, EC Rock, Top Sand, A-3038 Rock, B-70 Fine Sand, B-11 Sand, B-39 Gravel, MLS Friction Aggregate, Blend 84

CAS #: 14808-60-7, SiO₂

Product Code: None Assigned

Formula ID: 6-1-94, revised 9-1-97

Chemical Family: Sand, Silicon Dioxide

HMIS Hazard Rating:

| | |
|------------|---|
| Health | 0 |
| Fire | 0 |
| Reactivity | 0 |

Special Hazards: Crystalline silica (quartz), typically 99%+

SECTION 2 HAZARDOUS CHEMICAL COMPONENTS

Component: Silicon Dioxide, crystalline silica

CAS#: 14808-60-7

ACGIH-TLV: .1 mg/m³ respirable crystalline silica

OSHA-PEL: 10mg/m³

Other: National Institute for Occupational Safety and Health. Recommended standard maximum permissible concentration, .05 mg/m³ as determined by a full-shift sample up to 10-hour working day, 40-hour work week.

Caution: Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica is heated to more than 870 C it can change to a form of crystalline silica known as tridymite, and if crystalline silica is heated to more than 1470 C, it can change to a form of crystalline silica known as cristobalite. Crystalline silica as tridymite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as tridymite and cristobalite is one half the PEL for crystalline silica (quartz); the ACGIH TLV for crystalline silica as tridymite and cristobalite is one half the TLV for crystalline silica as quartz.

SECTION 3 HAZARD IDENTIFICATION

Emergency Overview: Products listed within the scope of this MSDS sheet run from very fine, dusty, free flowing powders to rounded pebble like materials. Colors vary from white, tan, to black and white. The products are not flammable, combustible, or explosive. The materials are not irritating to the skin but can be irritating to the eyes. A single exposure will not result in serious adverse health effects. Crystalline silica is not known to be an environmental hazard.

Potential Health Effects

Inhalation:

- a) Silicosis- respirable crystalline silica can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.
- b) Cancer-crystalline silica inhaled from occupational sources is classified as carcinogenic to humans
- c) Scleroderma-there is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an autoimmune disorder manifested by a fibrosis of the skin and internal organs.
- d) Tuberculosis-silicosis increases the risk of tuberculosis
- e) Nephrotoxicity-There are several studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of kidney disorders.

Eye Contact: Crystalline silica may cause abrasion of the cornea

Skin Contact: NONE

Ingestion: NONE

Chronic Effects: silicosis, cancer, scleroderma, tuberculosis, and nephrotoxicity

Signs and Symptoms of Exposure: There are generally no signs or symptoms of exposure to crystalline silica. Often, chronic silicosis has no symptoms. The symptoms of chronic silicosis, if present, are shortness of breath, wheezing, cough, and sputum production. The symptoms of acute silicosis are the same; additionally, weight loss and fever are associated with acute silicosis. The symptoms of scleroderma include thickening and stiffness of the skin, particularly in the fingers, shortness of breath, difficulty swallowing and joint problems.

Medical Conditions Aggravated by Exposure: The condition of individuals with lung disease (bronchitis, emphysema, asthma, pulmonary disease) can be aggravated by exposure.

SECTION 4 PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 2.65

Solubility in Water: Insoluble in water

Appearance: White, tan, black in color

Odor: None

Melting Point: 3110 F

SECTION 5 FIRE FIGHTING AND EXPLOSION DATA

Flash Point: Not flammable

Autoignition: None

Flammability Class: None

Upper Explosive Limit: None

Lower Explosive Limit: None

Fire and Explosion Hazards: None

Extinguishing Media: None required

Special Fire Fighting Instructions: None

SECTION 6 FIRST AID MEASURES

Routes of Exposure Inhalation: May cause a reversible inflammatory effect on the upper respiratory system

First Aid Inhalation: Remove to fresh air. If breathing has stopped, institute artificial respiration and seek medical attention immediately.

Routes of Exposure: Skin

First Aid Skin: Not Applicable.

First Aid Eyes: Rinse eyes thoroughly with clean water for at least 15 minutes. If irritation persists, seek medical attention.

Routes of Exposure: Ingestion

First Aid Ingestion: Not Applicable.

SECTION 7 REACTIVITY AND POLYMERIZATION

Stability: Stable

Incompatible Materials: Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, oxygen difluoride, may cause fires.

Hazardous Decomposition Products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas-silicon tetrafluoride.

Hazardous polymerization: Will not occur

SECTION 8 SPILL, LEAK, AND DISPOSAL PROCEDURES

Steps to be taken in the event of Spills, Leaks, or Release:

Spills: Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. Wear protective equipment.

Waste Disposal Methods: Dispose of in accordance with Federal, State, and Local environmental regulations. May be landfilled; however, material should be covered to minimize generation of airborne dust.

RCRA: Crystalline silica is not classified as a hazardous waste under the Resource Conservation and Recovery Act or its regulations, 40 CFR 261. Contaminated material is not covered within the scope of this MSDS. Contaminated material must be assessed for its appropriate disposal hazard.

SECTION 9 SPECIAL PROTECTIVE MEASURES

Ventilation: Local exhaust highly recommended. Mechanical exhaust highly recommended

Eye Protection: Safety glasses, goggles, full face shield

Respiratory Protection: NIOSH/MSA approved respirators for anticipated exposure

SECTION 10 STORAGE AND HANDLING

Do not breath dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below PEL. Practice good housekeeping. 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 which has become dusty.

SECTION 11 TOXICOLOGICAL INFORMATION

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

Chronic: The most common form of silicosis occurs 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 is characterized by lung lesions greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Advanced complicated silicosis may lead to heart disease, lung disease, and death.

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 years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic silicosis except that the lung lesions appear earlier and the 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.

SECTION 12 TRANSPORTATION INFORMATION

Crystalline silica is not a hazardous material for purposes of transportation under the Department of Transportation Table of Hazardous Materials, 49 CFR 172.101

The data in the Material Safety Data Sheet relates only to the specific material herein and does not relate to use in combination with any other material or in any process. The information set forth herein is based on technical data Kwik Bond Polymers, LLC believes to be reliable as of the date hereof. Since conditions of use are outside our control, we make no warranties, express or implied and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents. 1-20-2009