



Crushed Stone

Material Safety Data Sheet

Peckham Industries, Inc.
20 Haarlem Ave.
White Plains, NY 10603

Revision Date: 8/14/2006

Emergency Overview

Appearance: Angular particles, light salt-and-pepper colored, ranging in size from sand to boulders

Odor: No odor

WARNING:

Dust may irritate the eyes, skin and respiratory tract. Avoid breathing excessive dust. Breathing silica-containing dust for prolonged periods in the workplace can cause lung damage and a lung disease called silicosis. Several scientific organizations have classified crystalline silica as causing lung cancer in humans. Silicosis or lung cancer can result in permanent injury or death.

Hazard Rankings

	HMIS	NFPA
Health Hazard	0	0
Fire Hazard	0	0
Flammability	0	0
Reactivity	0	0

Protective Equipment

Minimum Recommended
See Section 8 for Details

This recommendation reflects
minimum PPE.



SECTION 1. PRODUCT IDENTIFICATION

Trade Name: Crushed Stone **Technical Contact:** (914) 949-2000
Medical Emergency: (800) 424-9300

CAS Number: 14808-60-7 **CHEMTREC Emergency:** (800) 424-9300
(United States Only)

Synonyms: Aggregate, Manufactured Sand

SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Stone	None	100
-Composition varies naturally-typically contains some quartz (crystalline silica)	14808-60-7	> 1

SECTION 3. HAZARDS IDENTIFICATION

Major Route(s) of Entry: Inhalation and contact with the eyes and skin.

Signs and Symptoms of Acute Exposure

- Eye Contact:** Dust particles can scratch the eye causing tearing, redness, a stinging or burning feeling, or swelling of the eyes with blurred vision.
- Skin Contact:** Dust particles can scratch and irritate the skin with redness, an itching or burning feeling, swelling of the skin and/or rash.
- Inhalation:** Dusts may irritate the nose, throat and respiratory tract by mechanical abrasion. Coughing sneezing and shortness of breath may occur.
- Ingestion:** Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation including nausea, vomiting, diarrhea and blockage.

Effects Following Prolonged or Repeated Exposure:

Exposure to high levels of respirable crystalline silica is associated with silicosis, lung cancer, and autoimmune disorders. For additional information, see Section 11.

Other Signs and Symptoms of Exposure:

Symptoms of silicosis may include (but are not limited to) shortness of breath, difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure.

Delayed or Other Health Effects

Carcinogenicity: Crystalline silica, a component in this product, has been listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and/or the Occupational Safety and Health Administration (OSHA). For additional information, see Section 11.

Conditions Aggravated By Exposure: Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid.

Eye Contact: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

Skin Contact: Wash affected areas thoroughly with mild soap and fresh water. Contact a physician if irritation persists or later develops.

Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or if breathing is difficult.

Ingestion: If person is conscious, do not induce vomiting. Give large quantity of water and get medical attention. Never attempt to make an unconscious person drink.

Note to Physicians: Not all individuals with silicosis will exhibit symptoms of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposures have ceased. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point Not applicable **Flammable Limits in Air** Not applicable

Autoignition Temperature Not applicable **Hazardous Combustion Products** Not applicable

Unusual Fire and Explosion Hazards Contact with powerful oxidizing agents may cause fire and/or explosions (see Section 10 of MSDS).

Extinguishing Media The presence of this material in a fire does not hinder the use of any standard extinguishing medium. Use extinguishing medium for surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Protective Measures Persons involved in cleanup processes should first observe precautions (as appropriate) identified in Section 8 of this MSDS.

Spill Management Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry-sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Prevent spilled material from entering streams, drains, or sewers.

SECTION 7. HANDLING AND STORAGE

- Handling** Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. Use personal protection and controls identified in Section 8 of this MSDS as appropriate.
- Storage** Do not store near food and beverages or smoking materials.

MANUFACTURED SAND MADE FROM THIS PRODUCT MUST NOT BE USED AS AN ABRASIVE BLASTING AGENT.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering Controls** Activities that generate dust require the use of general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.
- Personal Protective Equipment** Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



- Eye Protection** Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.
- Skin Protection** Use gloves to provide hand protection from abrasion. In dusty conditions, use long sleeve shirts. Wash work clothes after each use.
- Respiratory Protection** All respirators must be NIOSH-approved for the exposure levels present. (See NIOSH Respirator Selection Guide). The need for respiratory protection should be evaluated by a qualified safety and health professional. Activities that generate dust require the use of an appropriate dust respirator where dust levels exceed or are likely to exceed allowable exposure limits. For respirable silica levels that exceed or are likely to exceed an 8 hr Time Weighted Average (TWA) of 0.5 mg/m³, a high efficiency particulate filter respirator must be worn at a minimum; however, if respirable silica levels exceed or are likely to exceed an 8 hr TWA of 5.0 mg/m³ a positive pressure, full face respirator or equivalent is required. Respirator use must comply with applicable MSHA (42 CFR 84) or OSHA (29 CFR 1910.134) standards, which include provisions for a user training program, respirator inspection, repair and cleaning, respirator fit testing, medical surveillance and other requirements.
- Ventilation** General dilution or local exhaust ventilation as required to maintain exposures below appropriate exposure limits. Use only in well ventilated areas.

Other Control Measures Respirable dust and quartz levels should be monitored regularly to determine worker exposure levels. Exposure levels in excess of allowable exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee workstations.

Occupational Exposure Guidelines

When exposure to this product and other chemicals in concurrent, the exposure limit must be defined in the workplace.

Other Particulates: ACGIH TLV = 10 mg/m³ (inhalable fraction), 3 mg/m³ (respirable fraction);
MSHA/OSHA PEL = 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction);
NIOSH REL = 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction)

Respirable Crystalline Silica (quartz): ACGIH TLV = 0.025 mg/m³;
MSHA/OSHA PEL = 10 mg/m³ ÷ (% silica + 2);
NIOSH REL = 0.05 mg/m³

Respirable Dust containing silica: ACGIH TLV = 0.025 mg/m³;
MSHA/OSHA PEL = 10 mg/m³ ÷ (% silica + 2);
NIOSH REL = 0.05 mg/m³

Total Dust containing silica: ACGIH TLV = NE;
MSHA PEL = 30 mg/m³ ÷ (% silica + 3); OSHA PEL = 30 mg/m³ ÷ (% silica + 2);
NIOSH REL = NE

Respirable Tridymite and Cristobalite: ACGIH TLV = 0.025 mg/m³;
(other forms of crystalline silica) MSHA/OSHA PEL = ½ of PEL for respirable dust;
NIOSH REL = 0.05 mg/m³

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Attention: The data below are typical values and do not constitute a specification.

Appearance: Angular particles, light salt-and-pepper colored, ranging in size from sand to boulders.

pH: NA **Vapor Pressure:** NA **Vapor Density (Air = 1):** NA

Boiling Point: NA **Solubility:** 0 **Melting Point:** NA

Specific Gravity: 2.6-2.81 **Viscosity:** NA **Odor:** No odor

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal temperatures and pressures.

Incompatibility With Other Materials

Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves readily in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

Hazardous Decomposition Products

Silica-containing respirable dust particles may be generated. When heated, quartz is slowly transformed into tridymite (above 860°C/1580°F) and cristobalite (above 1470°C/2678°F). Both tridymite and cristobalite are other forms of crystalline silica and are considered more fibrogenic to the lungs than quartz.

Hazardous Polymerization Not known to occur.

Conditions to Avoid: Contact with incompatible materials should be avoided (see above).

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Health Effects

No specific data on product.

Effects Following Prolonged or Repeated Exposure

Prolonged overexposure to respirable dusts in excess of allowable exposure limits can cause inflammation of the lungs leading to possible fibrotic changes, a medical condition known as pneumoconiosis.

Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of allowable exposure limits may cause a chronic form of silicosis, an incurable lung disease that may result in permanent lung damage or death. Chronic silicosis generally occurs after 10 years or more of overexposure; a more accelerated type of silicosis may occur between 5 and 10 years of higher levels of exposure. In early stages of silicosis, not all individuals will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms of silicosis may include, but are not limited to, the following: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

Repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months may cause acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.

Respirable dust containing newly broken silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size. Respirable silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures of respirable dust containing newly broken particles of silica.

There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Carcinogenicity

Epidemiology studies on the association between crystalline silica exposure and lung cancer have had both positive and negative results. There is some speculation that the source and type of crystalline silica may play a role. Studies of persons with silicosis indicate an increased risk of developing lung cancer, a risk that increases with the level and duration of exposure. It is not clear whether or not lung cancer develops in non-silicotic patients. Several studies of silicotics do not account for lung cancer confounders, especially smoking, which have been shown to increase the risk of developing lung disorders, including emphysema and lung cancer. In October 1996, an IARC Working Group designated respirable crystalline silica as carcinogenic (Group 1). The NTP's Report on Carcinogens, 9th edition, lists respirable crystalline silica as a "known human carcinogen." In year 2000, the American Conference of Governmental Industrial Hygienists (ACGIH) listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY

No specific data on this product. Not expected to be toxic to aquatic organisms.

ENVIRONMENTAL FATE

No specific data on this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Place contaminated materials in appropriate containers and dispose of in a manner consistent with applicable federal, state, and local regulations. Prevent from entering drainage, sewer systems, and unintended bodies of water. It is the responsibility of the user to determine, at the time of disposal, whether product meets criteria for hazardous waste. Product uses, transformations, mixture and processes, may render the resulting material hazardous.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside the United States.

DOT Shipping Name: Not regulated

DOT Hazard Class: Not applicable

DOT Identification Number: Not regulated

Placard: None required

DOT Packing Group: Not applicable

Emergency Response Guide No.: Not applicable

SECTION 15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA):

The components in this product are listed on the TSCA Inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act.

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III:

Section 302 extremely hazardous substances:

None

Section 311/312 hazard categories:

Delayed Health

Section 313 reportable ingredients at or above de minimus concentrations:

None

SECTION 16. ADDITIONAL INFORMATION

Scale For NFPA and HMIS Ratings:

0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:-Personal Protective Equipment Index Recommendation, *-Chronic Effect Indicator. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protections Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value

STEL - Short-term Exposure Limit

NA - Not Applicable

NDA - No Data Available

TWA - Time Weighted Average

REL/PEL - Recommended/Permissible Exposure Limit

CAS - Chemical Abstract Service Number

NE - Not Established

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OR THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE, OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.