



# Material Safety Data Sheet

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION			
<i>PRODUCT NAME</i>	Natural Sand, Gravel, and Crushed Stone <table border="1" style="float: right; margin-left: 20px;"> <tr> <td>Revised: 05/23/02</td> </tr> </table>	Revised: 05/23/02	
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<i>SYNONYMS</i>	Construction Aggregate and Sand		
<i>MANUFACTURER</i>	Hanson Aggregates <table border="1" style="float: right; margin-left: 20px;"> <tr> <td><i>EMERGENCY PHONE NUMBER</i></td> </tr> <tr> <td>800-424-9300 CHEMTREC®</td> </tr> </table>	<i>EMERGENCY PHONE NUMBER</i>	800-424-9300 CHEMTREC®
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SECTION 2 COMPOSITION & INFORMATION ON INGREDIENTS		
<i>OSHA REGULATORY STATUS</i>		
This product contains naturally occurring crystalline silica (quartz) which is considered to be hazardous under the OSHA Hazard Communication Standard.		
<i>HAZARDOUS COMPONENTS</i>	<i>CAS NUMBER</i>	<i>% BY WEIGHT</i>
Crystalline silica (quartz)	14808-60-7	>1 Composition varies naturally.

SECTION 3 HAZARDS IDENTIFICATION
<i>EMERGENCY OVERVIEW</i>
Odorless; angular or round; tan, brown and/or gray particles. Nonflammable. May cause skin, eye or respiratory tract irritation from abrasion.
<i>PHYSICAL HAZARDS</i>
None.
<i>PRIMARY ROUTES OF EXPOSURE</i>
Primary routes of exposure are inhalation and eye contact.
<i>POTENTIAL EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE</i>
High concentrations of dust may cause irritation to the upper respiratory tract and eyes. Symptoms may include temporary upper respiratory discomfort with coughing, sneezing and tearing, blinking and irritation of the eyes.
<i>POTENTIAL EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE</i>
Repeated or prolonged inhalation of very small dust particles containing crystalline silica may result in silicosis. Silicosis is a scarring of the lungs which generally develops gradually over a period of years and may progress even after the exposure has stopped. Early symptoms of chronic silicosis include coughing and shortness of breath while exercising but may be so mild that they are not noticed. In advanced cases, lung capacity is severely reduced and the risk of infectious diseases such as tuberculosis increases. Symptoms include extreme shortness of breath, chest pain, loss of appetite, marked fatigue and inability to work. Complication may lead

to respiratory or heart failure. Chronic silicosis generally occurs after 10 or more years of overexposure; a more accelerated type may occur between 5 to 10 years of higher levels of exposure.

**CARCINOGENICITY**

Natural sand and gravel is not listed as a carcinogen by the International Agency on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). Classifications of the crystalline silica component are based on experimental studies with animals and epidemiologic studies of workers exposed to respirable crystalline silica.

IARC: classified as Group 1, a substance known to cause cancer to humans  
 NTP: classified as a known human carcinogen  
 OSHA: not classified as a carcinogen  
 ACGIH: classified as suspect human carcinogen  
 NIOSH: classified as a potential occupational carcinogen

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

Individuals with respiratory disorders may find these conditions aggravated by exposure to dust.

**SECTION 4 FIRST AID MEASURES**

**INHALATION**

Move exposed individual to fresh air. Dust in throat and nasal passages should clear naturally by coughing, sneezing and nasal discharge. Obtain medical attention if symptoms persist or develop later.

**EYE CONTACT**

Do not allow individual to rub eye(s). Flush gently under running water for 15 minutes or longer, making sure that the eyelid(s) is held open. Other than washing with water, do not attempt to remove material from eye(s). If pain or irritation persist or develop later, obtain medical attention.

**SKIN CONTACT**

If irritation occurs, flush gently with water until dust is removed. If irritation persists or develops later, obtain medical attention.

**INGESTION**

Ingestion is not a common route of occupational exposure. If swallowed and irritation or discomfort occurs, obtain medical attention.

**SECTION 5 FIRE FIGHTING MEASURES**

<b>FLASH POINT</b>	<b>FLAMMABLE LIMITS</b>
Not combustible.	Not applicable.

**EXTINGUISHING AGENTS**

Not combustible. Use extinguishing agent appropriate for surrounding flammable materials.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

None.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS**

Eye protection and appropriate respiratory protection should be used to protect cleanup personnel against dust.

**SPILL AND LEAK PROCEDURES**

Keep unprotected personnel out of the area. Do not dry sweep spilled dusty material. Use water spray to minimize dust or vacuum with HEPA filters.

**SECTION 7 HANDLING AND STORAGE**

**HANDLING PRECAUTIONS**

Dust containing crystalline silica may be generated during processing and storage. Use in well ventilated areas. Avoid generating dust. Use good housekeeping methods to prevent the accumulation of dust in the workplace.

**RECOMMENDED STORAGE CONDITIONS**

Store away from strong oxidizers. Local regulations may require water spray or other measures to limit dust in storage areas.

**SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION**

**EXPOSURE LIMITS AND GUIDELINES**

COMPONENT & CAS #	OSHA PEL	ACGIH TLV
Crystalline silica (quartz) CAS#14808-60-7  *Respirable Dust **Total Dust	$\frac{(10 \text{ mg/m}^3)^*}{(\% \text{SiO}_2 + 2)}$ $\frac{(30 \text{ mg/m}^3)^{**}}{(\% \text{SiO}_2 + 2)}$ MSHA PEL  $\frac{(10 \text{ mg/m}^3)^*}{(\% \text{SiO}_2 + 2)}$ $\frac{(30 \text{ mg/m}^3)^{**}}{(\% \text{SiO}_2 + 3)}$	0.05 mg/m <sup>3*</sup>   NIOSH REL  0.05 mg/m <sup>3*</sup>

**ENGINEERING CONTROLS**

Use general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.

**RESPIRATORY PROTECTION**

The need for respiratory protection should be evaluated by a qualified professional. The use of respirators for controlling exposures in excess of PEL must comply with OSHA and MSHA requirements for medical surveillance, respirator fit testing, repair and cleaning and user training.

**EYE PROTECTION**

Safety glasses with side shields should be worn as minimum protection. Dust goggles or full face protection should be worn when dusty conditions are present or are anticipated.

**SKIN PROTECTION**

Generally not needed, however, in very dusty conditions, clothing with long sleeves and gloves will provide skin protection. Contaminated work clothing should be washed after use.

**ADDITIONAL PROTECTIVE MEASURES**

Dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE</b>	<b>SPECIFIC GRAVITY</b>
Sharp, angular or round particles.	2.55 – 2.80
<b>COLOR</b>	<b>EVAPORATION RATE</b>
Tan, brown and/or gray particles	Not applicable.
<b>ODOR</b>	<b>VAPOR DENSITY (AIR = 1)</b>
None.	Not applicable.
<b>BOILING POINT</b>	<b>pH</b>
Not applicable.	Not applicable.
<b>VAPOR PRESSURE</b>	<b>SOLUBILITY IN WATER</b>
Not applicable.	Negligible.

**SECTION 10 STABILITY AND REACTIVITY**

<b>STABILITY</b>
Stable.
<b>INCOMPATIBILITY</b>
Crystalline silica may react violently with strong oxidizing agents, causing fire and/or explosions. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>
None.
<b>HAZARDOUS POLYMERIZATION</b>
Does not polymerize.
<b>CONDITIONS TO AVOID</b>
Avoid contact with strong oxidizing agents.

**SECTION 11 TOXICOLOGICAL INFORMATION****ACUTE TOXICITY DATA**

Standard animal toxicity data (e.g. LD<sub>50</sub>, LC<sub>50</sub>) are not available for quartz.

IDLH (quartz): 50 mg/m<sup>3</sup> (No relevant acute animal or human data for determination of IDLH. Value based on 500 times OSHA PEL.)

Epidemiologic studies of workers indicate an increased risk of lung cancer from chronic exposure to respirable crystalline silica; this effect was more pronounced in those with silicosis. However, many of the studies did not account for effects of smoking or other confounding exposures. Studies of chronic inhalation of respirable crystalline silica showed increases in lung cancer in rats but not in hamsters.

An "acute" form of silicosis may develop from inhalation of extremely high concentrations of crystalline silica over a period of several months to five years. This disease is very rare in humans but has occurred in occupations such as tunneling or sandblasting where exposures were high and controls were minimal.

Epidemiologic studies have linked crystalline silica exposure with immunologic disorders, autoimmune diseases and renal diseases, however the cellular mechanisms for these effects have not been identified and experimental data is not available.

In laboratory animal tests, dust containing respirable silica particles aged for sixty days or more showed less lung injury than equal exposures to newly broken particles.

**SECTION 12 ECOLOGICAL INFORMATION****ECOLOGICAL DATA**

Generally considered chemically inert in the environment.

**SECTION 13 DISPOSAL CONSIDERATIONS****WASTE DISPOSAL**

Dispose of waste product and unused product in compliance with federal, state and local requirements. Used material which has become contaminated, may have significantly different characteristics based on the contaminant and should be evaluated accordingly.

**SECTION 14 TRANSPORT INFORMATION****DOT HAZARD CLASS**

Not applicable.

**DOT PLACARD**

Not applicable.

**SECTION 15 REGULATORY INFORMATION****US FEDERAL REGULATIONS**

<i>SARA 313</i>	
Not applicable.	
<i>CERCLA 103</i>	
Not applicable.	
<i>STATE REGULATIONS</i>	
<i>COMPONENT</i>	<i>STATE REGULATORY LIST</i>
Crystalline Silica, quartz 14808-60-7	California Proposition 65

**SECTION 16 OTHER INFORMATION**

For further information on this product contact the nearest regional Hanson Aggregates office.

**NOTICE:** Hanson Building Materials American believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules, or insurance requirements.

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