

# BROWN PEBBLE

## MATERIAL SAFETY DATA SHEET

### 1. Contact Information

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### 2. Product Identification

<b>Trade Name</b>	<b>BROWN PEBBLE</b>	<b>Common Name(s)</b>	Gravel, Aggregate, Manufactured Sand, Fine Filler
<b>Chemical Formula</b>	Not applicable.		
<b>CAS Number</b>	none/varies (see section 3)		
<b>Physical Form</b>	smooth, irregular/angular particles, color varies: tan, brown		
<b>Particle Size</b>	Size A: approx. 1/4" x 1/8" Size B: approx. 1/2" x 1/4" Size C: approx. 7/8" x 1/2"		

### 3. Ingredients & Hazards

Ingredient	Wt. % (Approx.)	CAS No.
Natural Sand or Gravel*	100%	None
Crystalline Silica, Quartz <small>Composition varies naturally – typically contains some quartz</small>	>1%	14808-60-7

### 4. Hazards Identification & Cautions

**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.

#### Potential Health Effects

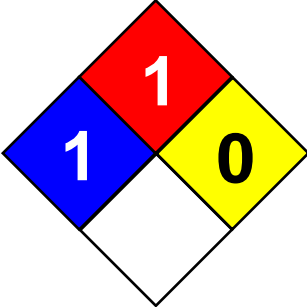
<b>Primary Routes of Exposure</b>	<input checked="" type="checkbox"/> Inhalation <input type="checkbox"/> Skin <input type="checkbox"/> Ingestion
<b>Eye Contact</b>	Dust particles can scratch the eye causing tearing, redness, a stinging or burning feeling, or swelling of the eyes with blurred vision.
<b>Skin Contact</b>	Dust particles can scratch or irritate the skin with redness, an itching or burning feeling, swelling of the skin, and/or rash.
<b>Skin Absorption</b>	Not expected to be a significant exposure route.
<b>Inhalation</b>	Dusts may irritate the nose, throat and respiratory tract by mechanical abrasion. Coughing, sneezing and shortness of breath may occur.
<b>Ingestion</b>	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 12.

#### 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 & Health Administration (OSHA). For additional information, see Section 12.

<b>Signs &amp; Symptoms of Exposure</b>	
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.	
<b>Medical Conditions Aggravated by Exposure</b>	
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.	
<b>5. First Aid Measures</b>	
<b>Eye Contact</b>	Immediate 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.
<b>Skin Contact</b>	Wash affected areas thoroughly with mild soap and fresh water. Contact a physician if irritation persists or later develops.
<b>Inhalation</b>	Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or if breathing is difficult.
<b>Ingestion</b>	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.
<b>Notes to Physician</b>	
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.	
For emergencies, contact 3E Company at 1-866-401-5424 (24 hours/day, 7 days/week).	
<b>6. Fire Fighting Measures</b>	
<b>Explosion Data</b>	Not Explosive
<b>LEL</b>	Not Applicable
<b>UEL</b>	Not Applicable
<b>Flammability</b>	Not Flammable or Combustible
<b>Extinguishing Media</b>	The presence of this material in a fire does not hinder the use of any standard extinguishing medium. Use extinguishing medium for surrounding fire.
<b>Flammability</b>	Not Flammable or Combustible
<b>Flash Point</b>	Not Applicable
<b>Auto-Ignition</b>	Not Applicable
<p><b>NFPA 704M Hazard Classification</b> Use Appropriate extinguishing media for packaging material if applicable.</p> 	
<b>Unusual Fire &amp; Explosion Hazards</b>	
Contact with powerful oxidizing agents may cause fire and/or explosions (see Section 11 of MSDS).	
<b>7. Accidental Release Measures</b>	
<b>Precautions if Material is Spilled or Released</b>	
Persons involved in cleanup processes should first observe precautions (as appropriate) identified in Section 9 of this MSDS. 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 materials from entering streams, drains, or sewers.	
For emergencies, contact 3E Company at 1-866-401-5424 (24 hours/day, 7 days/week).	
<b>Waste Disposal Methods</b>	
Dispose of waste materials in accordance with applicable federal, state and local laws and regulations.	
<b>Environmental Precautions</b>	
Not applicable.	

8. Handling & Storage			
<b>Storage</b>	Do not store near food and beverages or smoking materials.		
<b>Handling</b>	Respirable crystalline silica-containing dust may be generated during processing, handling and storage. Use personal protection and controls identified in Section 9 of this MSDS as appropriate.		
<b>NOTE: MANUCATURED SAND MADE FROM THIS PRODUCT MUST NOT BE USED AS AN ABRASIVE BLASTING AGENT.</b>			
9. Exposure Control / Personal Protection			
<b>LEGEND</b>			
<b>NE</b>	- Not Established	<b>OSHA</b>	- Occupational Safety & Health Administration
<b>PEL</b>	- Permissible Exposure Limit	<b>MSHA</b>	- Mine Safety & Health Administration
<b>TLV</b>	- Threshold Limit Value	<b>NIOSH</b>	- National Institute for Occupational Safety & Health
<b>REL</b>	- Recommended Exposure Limit	<b>ACGIH</b>	- American Conference of Governmental Industrial Hygienists
COMPONENT	OSHA/MSHA PEL	ACGIH TLV	NIOSH REL
<b>Particulates not otherwise classified</b>	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)	10 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)	NE
<b>Respirable dust containing silica</b>	10 mg/m <sup>3</sup> ÷ (% silica + 2)	Use Respirable Silica TLV	Use Respirable Silica REL
<b>Total dust containing silica</b>	OSHA: 30 mg/m <sup>3</sup> ÷ (% silica + 2) MSHA: 30 mg/m <sup>3</sup> ÷ (% silica + 3)	NE	NE
<b>Respirable crystalline silica</b>	NE – Use respirable dust PEL	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
<b>Respirable Tridymite &amp; Cristobalite</b> (other forms of crystalline silica)	½ of OSHA and MSHA respirable dust PEL	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
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 (Protective Gloves/Clothing)			
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) or 0.5 mg/m <sup>3</sup> , 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/m <sup>3</sup> 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.			
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.			
Other			
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.			
10. Physical & Chemical Properties			
<b>Boiling Point</b> not applicable	<b>pH</b> not applicable	<b>Specific Gravity (H<sub>2</sub>O = 1)</b> 2.6 – 2.81	
<b>Evaporation Rate (Butyl Acetate = 1)</b> 0 (zero)	<b>Melting Point</b> not applicable	<b>Vapor Pressure (mm Hg)</b> not applicable	
<b>Solubility in Water</b> 0 (zero)	<b>Vapor Density (Air = 1)</b> not applicable	<b>Volatile (%)</b> not applicable	
Appearance & Odor			
Angular particles, light salt-and-pepper colored, ranging in size from pebbled to boulders. No odor.			

<b>11. Stability &amp; Reactivity</b>
<b>Stability</b>
Stable under normal temperatures and pressures.
<b>Conditions to Avoid</b>
Contact with incompatible materials should be avoided (see below). See Sections 5 and 7 for additional information.
<b>Incompatibility (Materials to Avoid)</b>
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.
<b>Hazardous Decomposition or Byproducts</b>
Silica-containing respirable dust may be generated. When heated, quartz is slowly transformed into tridymite (above 860°C / 1,580°F) and cristobalite (above 1,470°C / 2,678°F). Both tridymite and cristobalite are other forms of crystalline silica and are considered more fibrogenic to the lungs than quartz.
<b>Hazardous Polymerization</b>
Not known to occur.
<b>12. Toxicological Information</b>
<b>Acute Effects</b>
No specific data on product.
<b>Effects Following Prolonged or Repeated Exposure</b>
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<b>Carcinogenicity</b>
<p>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.</p> <p>In October 1996, an IARC Working Group designated respirable crystalline silica as carcinogenic (Group 1). The NTP's Report on Carcinogens, 9<sup>th</sup> 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.</p>

13. Ecological Information			
<b>Aquatic Ecotoxicological Data</b>	No specific data on this product. Not expected to be toxic to aquatic organisms.		
<b>Environmental Fate Data</b>	No specific data on this product.		
<b>Other</b>	No specific data on this product.		
14. Disposal Consideration			
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, weather product meets criteria for hazardous waste. Product uses, transformation, mixture and processes, may render the resulting material hazardous.			
15. Transport Information [note: not intended to be all-inclusive]			
<b>DOT Proper Shipping Name</b>	Not regulated.	<b>DOT Hazard Classification</b>	Not applicable.
<b>UN/NA Number</b>	Not regulated.	<b>DOT Packing Group</b>	Not applicable.
16. Regulatory Information [note: not intended to be all-inclusive]			
Toxic Substances Control Act (TSCA)			
The components in this product are listed on the TSCA Inventory or are exempt.			
Comprehensive Environmental Response, Compensation & 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 & Reauthorization Act.			
Superfund Amendments & Reauthorization Act of 1986 (SARA), Title III			
<b>Section 302</b> extremely hazardous substances	None		
<b>Section 311/312</b> hazard categories	Delayed Health		
<b>Section 313</b> reportable ingredients at or above de minimus concentrations	None		
California Proposition 65			
This product contains a chemical (crystalline silica) known to the State of California to cause cancer.			
State Regulatory Lists			
Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list or all state regulations. Therefore, the user should review the components listed in Section 2 and consult state or local authorities for specific regulations that apply.			
17. Other Information			
Disclaimer of Liability			
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<b>NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.</b>			
<b>JUSTICE PRODUCTS, LLC</b> P.O. Box 10007 Savannah, GA 31412	<b>Plant Manager:</b> Mike Andrews <b>Emergency Phone:</b> (855) 720-2388	<b>Date Prepared</b> May 01, 2009	<b>Last Revised</b> April 22, 2011

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