

**1. Identification**

**Product identifier** **Formulated Concrete (FC) Sand**

**Other means of identification**

**Synonyms** Granite aggregate

**Recommended use** Granite aggregate is a construction material. Product may be distributed in bags, totes, and bulk shipments.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** **Granite Rock Company**

**Address** **350 Technology Drive  
Watsonville, CA 95076**

**Telephone** **831.768.2000**

**Website** **www.graniterock.com**

**Emergency phone number** **888.762.5100**

**2. Hazard(s) identification**

**Physical hazards** Not classified.

**Health Hazards** Carcinogenicity Category  
 1A Specific Target Organ Toxicity, Category  
 2 Repeated Exposure

**OSHA defined hazards** Not classified.

**Label elements**


**Signal word** Danger

**Hazard statement** May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure.

**Precautionary statement**

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If exposed or concerned: Get medical advice/attention.

**Storage** Restrict or control access to stockpile areas. Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information**

Respirable Crystalline Silica (RCS) may cause cancer. Granite is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, granite is not a known health hazard. Granite may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Granite	None	>99
Crystalline Silica (Quartz)	14808-60-7	> 1

### 4. First-aid measures

<b>Inhalation</b>	Granite dust: Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Granite dust: Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Granite dust: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.
<b>Ingestion</b>	Granite dust: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Most important symptoms/effects, acute and delayed</b>	Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. 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.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Granite is not flammable. Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	No unusual fire or explosion hazards noted. Not a combustible dust.
<b>Special protective equipment and precautions for firefighters</b>	Use protective equipment appropriate for surrounding materials.
<b>Fire fighting equipment/instructions</b>	No specific precautions.
<b>Specific methods</b>	Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, and emergency procedures</b>	Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate granite dust.
<b>Methods and materials for containment and cleaning up</b>	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.
<b>Environmental precautions</b>	Avoid discharge of fine particulate matter into drains or water courses.

**7. Handling and storage**
**Precautions for safe handling**

Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage**

Avoid dust formation or accumulation.

**8. Exposure controls/personal protection**
**Legend:**

NE = Not Established; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; OSHA = Occupational Safety and Health Administration; MSHA = Mine Safety and Health Administration; NIOSH = National Institute for Occupational Safety and Health; ACGIH = American Conference of Governmental Industrial Hygienists

Component	OSHA/MSHA PEL	ACGIH TLV	NIOSH REL
Particulates not otherwise classified	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
Respirable dust containing silica	10 ÷ (% silica + 2)	Use Respirable Silica TLV	Use Respirable Silica REL
Total dust containing silica	MSHA: 30 ÷ (% silica + 3)	NE	NE
Respirable Crystalline Silica (quartz)	OSHA: 0.05 mg/m <sup>3</sup> (PEL) OSHA: 0.025 mg/m <sup>3</sup> (Action Level) MSHA: Use Respirable Dust containing Silica PEL (above)	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
Respirable Tridymite and Cristobalite (other forms of crystalline silica)	OSHA: Use respirable crystalline silica PEL MSHA: 1/2 of respirable dust containing silica PEL	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including "Particulates Not Otherwise Classified," "Particulates Not Otherwise Regulated," "Particulates Not Otherwise Specified," and "Inert or Nuisance Dust" are often used interchangeably; however, the user should review each agency's terminology for differences in meanings.

<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Use personal protective equipment as required.
<b>Other</b>	Use personal protective equipment as required.
<b>Respiratory protection</b>	When handling or performing work with granite that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.
<b>Thermal hazards</b>	Not anticipated. Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid, particles.
<b>Color</b>	Beige/gray.
<b>Odor</b>	Not applicable.
<b>Odor threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	3100° F
<b>Initial boiling point and boiling range</b>	4046° F
<b>Flash point</b>	Non-combustible
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit – lower (%)</b>	Not applicable.
<b>Flammability limit – upper (%)</b>	Not applicable.
<b>Vapor pressure</b>	Not applicable.
<b>Vapor density</b>	Not applicable.
<b>Specific gravity</b>	2.57-2.62
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.

**Other information**

<b>Explosive properties</b>	Not applicable.
<b>Flammability</b>	Not applicable.
<b>How to detect this substance</b>	X-ray diffraction – NIOSH methods 7500 & 7501

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.

**11. Toxicological information**
**Information on likely routes of exposure**

<b>Inhalation</b>	Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer.
<b>Skin contact</b>	Granite dust: May cause irritation through mechanical abrasion.
<b>Eye contact</b>	Granite dust: May cause irritation through mechanical abrasion.
<b>Ingestion</b>	Not likely, due to the form of the product. However, accidental ingestion of the content may cause discomfort.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Granite dust: Discomfort in the chest. Shortness of breath. Coughing.

**Information on toxicological effects**

<b>Acute toxicity</b>	Not expected to be acutely toxic.
<b>Skin corrosion/irritation</b>	This product is not expected to be a skin hazard.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	No respiratory sensitizing effects known.
<b>Skin sensitization</b>	Not known to be a dermal irritant or sensitizer.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Crystalline Silica (Quartz) (CAS 14808-60-7)	1 Carcinogenic to humans. Respirable Tridymite and Cristobalite
	1 Carcinogenic to humans. (other forms of Crystalline) (CAS Mixture)

**NTP Report on Carcinogens**

Crystalline Silica(Quartz) (CAS 14808-60-7)	Known To Be Human Carcinogen.
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**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

<b>Reproductive toxicity</b>	Not expected to be a reproductive hazard.
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**Specific target organ toxicity  
- single exposure**

Not classified.

**Specific target organ toxicity –  
repeated exposure**

Respirable crystalline silica: May cause damage to organs (lung) through prolonged or repeated exposure.

**Aspiration hazard**

Due to the physical form of the product it is not an aspiration hazard.

**Chronic effects**

Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. 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.

**12. Ecological information****Ecotoxicity**

Not expected to be harmful to aquatic organisms. Discharging granite dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

**Persistence and degradability**

Not applicable.

**Bioaccumulative potential**

Not applicable.

**Mobility in soil**

Not applicable.

**Other adverse effects**

No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

**13. Disposal considerations****Disposal instructions**

Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

**Hazardous waste code**

Not regulated.

**Waste from residues /  
unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

**14. Transport information****DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to  
Annex II of MARPOL 73/78 and  
the IBC Code**

Not applicable.

**15. Regulatory information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986**

**(SARA) Hazard categories** Immediate Hazard - No  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)****US state regulations**

Not regulated.

**US. Massachusetts RTK - Substance List**

Crystalline Silica (Quartz) (CAS 14808-60-7)  
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

**US. New Jersey Worker and Community Right-to-Know Act**

Crystalline Silica (Quartz) (CAS 14808-60-7)  
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Crystalline Silica (Quartz) (CAS 14808-60-7)  
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Crystalline Silica (Quartz) (CAS 14808-60-7)

**International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*Yes" indicates this product complies with the inventory requirements administered by the governing country(s). "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

Crystalline silica is a naturally occurring substance found in soil and rock formations. Crystalline silica is present in trace amounts in the atmosphere air as particulate. Crystalline silica is one of several crystalline polymorphs (including trydimite, cristobalite) of silicon dioxide. When heated to 870°C, crystalline silica transforms to trydimite, and when heated to 1,470°C it can transform to cristobalite. The OSHA PEL for trydimite and cristobalite are one-half the PEL for crystalline silica. Chronic or ordinary silicosis is the most common form of silicosis which can occur after many years of exposure to relatively low levels of airborne respirable dust.

Crystalline silica is listed by the National Toxicology Program in a category which may reasonably be anticipated to be a carcinogen, and by the International Agency for Research on Cancer (IARC) as a Group 1 carcinogenic. After years of study, the non-governing IARC concluded in 1997 that there was "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupation sources." The IARC noted that carcinogenicity was not detected in all industries, and that toxicity may depend on "external factors affecting its biological activity or distribution of its polymorphs."

Crystalline silica is listed by the Governor of the State of California, under Proposition 65, as requiring the following warning: "Detectable amounts of chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be found in this product."

<b>Issue date</b>	<b>October 1999</b>
<b>Revision date</b>	<b>June 2019</b>

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**GRANITE ROCK COMPANY DISCLAIMER**

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