

Material Safety Data Sheet



Carolina Aggregates, LLC - Gaston Plant

662 Boy Scout Road, Gaston, SC 29053

SAND, SILICA

1. Product Identification and Company Identification

Common Name: Silica, Sand, Silica Sand, Industrial Sand, and Quartz

Manufacturer's Name: Carolina Aggregates, LLC

Address: 662 Boy Scout Road, Gaston, SC 29053

Manufacturer's Fax: 803.794.4803

Emergency Contact: Thomas F. Walker

2. Composition/Information on Ingredients

Hazardous Ingredient

Name:	Silica Quartz (SiO ₂)
Case Number:	14808-60-7
Concentration:	90 - 100%

Exposure Limits (respirable fraction) in Air

OSHA & MSHA – PEL	10mg/m ³
	%SiO ₂ + 2 (8-Hour TWA)
ACGIH – TLV	0.05 mg/cubic meter (8-Hour TWA)
NIOSH	0.05 mg/cubic meter (10-hr TWA, 40 hr work week)

Exposure Limits refer to the respirable fraction.

PEL means OSHA Permissible Exposure Limit.

TLV means American Conference of Governmental Industry Hygienists (ACGIH) Threshold Limit Value.

MSHA means Mine Safety and Health Administration Exposure Limit.

TWA Means 8 hour Time Weighted Average.

Warning: AVOID BREATHING DUST FROM THIS PRODUCT BECAUSE IT CONTAINS CRYSTALLINE SILICA. BREATHING CRYSTALLINE SILICA CAN CAUSE THE OCCUPATIONAL LUNG DISEASE SILICOSIS. CRYSTALLINE SILICA MAY CAUSE CANCER AND SCLERODERMA. FOLLOW OSHA HEALTH STANDARDS FOR CRYSTALLINE SILICA.

3. Hazards Identification

Emergency Overview

Sand from Carolina Aggregates, LLC is a light colored to tan multicolored sand with no odor. It is not flammable, combustible, or explosive. It can cause irritation 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:

Respirable crystalline silica (quartz) can cause chronic silicosis, a fibrosis (scarring of the lungs). Silicosis may be progressive; it may lead to disability and death.

Crystalline silica (quartz) inhaled from occupational sources in sufficient concentration is classified as carcinogenic to humans.

There is evidence that exposure to respirable crystalline silica may be associated with the increased incidence of several autoimmune disorders: scleroderma, systematic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys.

Ingestion:

No adverse health effects expected.

Skin Contact:

No adverse effects expected.

Eye Contact:

May cause irritation, redness and pain.

Chronic Exposure:

Inhalation of quartz is classified as a human carcinogen. Chronic exposure can cause silicosis; a form of lung scarring that can cause shortness of breath, reduced lung function, and in severe cases, death.

Aggravation of Pre-existing Conditions:

Inhalation may increase the progression of tuberculosis; susceptibility is apparently not increased. Persons with impaired respiratory function may be more susceptible to the effects of this substance. Smoking can increase the risk of lung injury.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If large amounts were swallowed, give water to drink and get medical advice.

Skin Contact:

Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

Precautions During Handling and Use: Do not breath dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below PEL. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. If dust cannot be kept below permissible limits, wear a respirator approved for silica dust when using, handling, storing or disposing of this product. 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 that has become dusty. There are no special storage requirements. Train all exposed persons in all sections of this MSDS and the proper handling of silica before they work with this product.

See also control measures in Section 8.

The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed. **WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND THE REQUIRED OSHA PRECAUTIONS. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

See also American Society for Testing and Materials (ASTM) standard practice E 1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

Total dust: 30mg/m³/ (%SiO₂ + 2)

Respirable Fraction: 10 mg/m³/ (%SiO₂ + 2)

-ACGIH Threshold Limit Value (TLV):

0.025 mg/m³ (TWA) respirable dust, A2 -Suspected Human Carcinogen.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half-face high efficiency particulate respirator (NIOSH type N100 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency particulate respirator (NIOSH type N100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerin, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA

respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Fine, white to tan multi colored granules.

Odor:

Odorless.

Solubility:

Insoluble in water.

Specific Gravity:

2.65

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

2230C (4046F)

Melting Point:

1710C (3110F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

10 @ 1732C (3150F)

Evaporation Rate (BuAc=1):

Not applicable.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

At higher temperatures, can change crystal structure to form tridymite or cristobalite, which have greater health hazards.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong alkalis, hydrofluoric acid, powerful oxidizers and fluorine containing compounds.

Conditions to Avoid:
Dusting and incompatibles.

11. Toxicological Information

Add section 11

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF INHALED. OVEREXPOSURE MAY CAUSE LUNG DAMAGE. MAY CAUSE EYE IRRITATION. INHALATION CANCER HAZARD. CONTAINS

QUARTZ WHICH CAN CAUSE CANCER. Risk of cancer depends upon duration and level of exposure.

Label Precautions:

- Do not get in eyes, on skin, or on clothing.
- Do not breathe dust.
- Keep container closed.
- Use only with adequate ventilation.
- Minimize dust generation and accumulation.
- Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 8.

Disclaimer:

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