Since 1933

Southern Products & Silica Co.

Conforms to HazCom 2012/United States

Section 1: Identification

GHS product identifier: Sand and Gravel

Other means of identification: Washed, dried and screened sub-angular silica sands and gravel. High purity, quartzite, crystalline silica, silicon dioxide.

Relevant identified uses of the substance or mixture and uses advised against: Sand and Gravel aggregate may be used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction materials. Sand and Gravel aggregate may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.

Manufacturer: Southern Products & Silica Co.
P.O. Drawer 189
Hoffman, NC 28347

Office Phone Number: (910) 281-3189

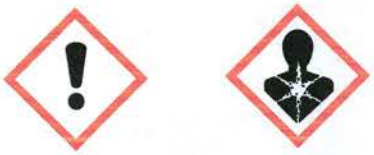
Emergency telephone number (24 hours): (800) 572-6348

Section 2: Hazards Identification

GHS Classification: CARCINOGENICITY – Category 1A
SPECIFIC TARGET ORGAN TOXICITY – Category 2
REPEATED EXPOSURE
SKIN CORROSION/IRRITATION – Category 2
EYE DAMAGE/IRRITATION – Category 2A

GHS Label Elements:

Hazard pictograms:



Signal word: Danger

Hazard statements: May cause respiratory irritation
May cause cancer (inhalation)
May damage organs (lung/respiratory system) through prolonged or repeated exposure (inhalation)
Causes skin irritation
Causes serious eye irritation

Precautionary Statements:

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash any exposed body parts.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product
Do not breathe dust

Response: If exposed or concerned: Get medical advice/attention.
If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.
If exposure to respirable dust is likely to be exceeded use OSHA approved respirator

Storage: Restrict or control access to stockpile areas (store locked up).
Store in well ventilated 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.

Hazards not otherwise classified (HNOC): None Known

Supplemental Information:

Respirable Crystalline Silica (RCS) may cause cancer. Sand and Gravel is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, sand and gravel is not a known health hazard. Sand and Gravel 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). In February 1992, The National Toxicology Program (NTP), an agency of the U.S. Department f Health and Human Services, listed "respirable crystalline silica" in its 6th Annual Report on Carcinogen. In 1987, the International Agency for Research on Cancer (IARC) in its publication of Monograph 42 concluded that there is sufficient evidence of the carcinogenicity of crystalline silica to experimental animals, and there is limited evidence of the carcinogenicity of crystalline silica to humans.

Section 3: Composition/ Information on Ingredients

Hazardous Ingredient
Chemical Name: Silica Quartz, SiO_2
Concentration: >95%
Synonyms: Silica Sand, Sand, Quartzite, Crystalline Silica, Silicon Dioxide
CAS Number: 14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to process variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. These materials are mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Section 4: First-Aid Procedures

Necessary Measures:

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. 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.

Inhalation: No specific first aid is necessary since the adverse health effects associated with exposure to crystalline silica (quartz) results from chronic exposure. Suggest moving person to fresh air, give artificial respiration as needed. Seek medical attention as needed.

Skin Contact: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most Important Symptoms/effects, acute and delayed:

Generally no signs or symptoms of exposure. Inhaling dust may cause discomfort in the chest, shortness of breath, coughing, and reduced pulmonary function. Prolonged inhalation may cause chronic health effects such as lung disease, silicosis, cancer, autoimmune disease, tuberculosis, and nephrotoxicity.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: See toxicological information (Section 11)

Specific treatments: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information:
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 dust.

Section 5: Fire-Fighting Measures

Suitable extinguishing media: Not flammable. Use fire-extinguishing media appropriate to the surrounding fire.

Unsuitable extinguishing media: None Known

Specific hazards arising from the chemical: None

Hazardous thermal decomposition Products: None

Special protective equipment and precautions for firefighters: Use protective equipment appropriate for surrounding materials. No specific precautions.

Section 6: Accidental Release Measures

Personal Precautions & Protective Equipment: Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate dust.

Environmental Precautions: 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. Avoid discharge of fine particulate matter into drains or water courses. Dispose of the silica according to federal, state, and local regulations.

Section 7: Handling and Storage

Protective measures: Do not handle until all safety precautions have been read and understood. This product is **not** to be used for abrasive blasting. Keep formation of airborne dusts to a minimum. Provide

appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Dust may be present even if not visible. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.

Conditions for safe storage, including any incompatibilities: Avoid dust formation or accumulation.

Section 8: Exposure Controls/ Personal Protection

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-Hour TWA, 40-hour work week)

Exposure Limits refer to the respirable fraction.
PEL means OSHA Permissible Exposure Limit.
TLV means American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value.
MSHA means Mine Safety and Health Administration Exposure Limit.
TWA means 8 hour Time Weighted Average.

CAUTION:
Silica is classified as hazardous under OSHA regulations (29 CFR 1910.1200). The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30,1993 following a decision by the 11th Circuit Court of Appeals. There PELs are now being enforced by the Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies, or other authorities. Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C it can change to a form of crystalline silica known as trydimite, and if crystalline silica (quartz) is heated to more than 1470° C, it can change to a form of crystalline silica known as cristobalite. Crystalline silica as trydimite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as trydimite and cristobalite is one-half the PEL for crystalline silica (quartz); the ACGIH TLV for crystalline silica as trydimite and cristobalite is one-half the TLV for crystalline silica as quartz.

Engineering Controls:
Ventilation: Use sufficient local exhaust to reduce the level of respirable crystalline silica to below the PEL. See ACGIH :"Industrial Ventialtion, A Manual of Recommended Practice" (latest edition).

Individual Protection Measures:
Hygiene measures: 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.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand protection: Gloves recommended in situations where abrasion from sand may occur.

Body protection: Use personal protective equipment as required.

Other skin protection: Use personal protective equipment as required.

Thermal hazards:
Not anticipated. Wear appropriate thermal protective clothing if necessary.

Respiratory protection: When handling or performing work 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. If the workplace airborne crystalline silica concentration is unknown for a given task, conduct air monitoring to determine the appropriate level of respiratory protection. Consult with a certified industrial hygienist, your insurance risk manager, or the OSHA Consultative Services group for detailed information. Provisions

should be made for a respiratory protection training program (see 29 CFR 1910.134 – Respiratory Protection for minimum program requirements).

See also ANSI standard Z88.2 (latest revision) "American National Standard for Respiratory Protection," 29 CFR 1910.134 and 1926.103, and 42 CFR 84. Positive pressure supplied air-type respiratory protection recommended.

The following chart specifies the type of respirators, which may provide respiratory protection for crystalline silica.

PARTICULATE CONCENTRATION	MINIMUM RESPIRATORY PROTECTION
10 X PEL or Less	Any particular respirator, except single-use or quarter-mask respirator. Any fume respirator or high efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus.
50 X PEL or Less	A high efficiency particulate filter respirator with a full-face piece. Any supplied-air respirator with a full-face piece, helmet, or hood. Any self-contained breathing apparatus with a full-face piece.
500 x PEL or Less	A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode.
Greater than 500x PEL or Entry and Escape from Unknown Concentrations	Self-contained breathing apparatus with a full-face piece operated in pressure-demand mode. A combination respirator which includes a Type C supplied-air respirator with a full-face piece operated in pressure- demand or other positive pressure continuous- flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Component	CAS No.	Percentage (by wt.)	OSHA (TWA)	OSHA (STEL)	ACGIH (TWA)	ACGIH (STEL)	NIOSH (TWA)	NIOSH (STEL)	Unit
Crystalline Silica (Quartz)	14808-60-7	87.0-99.9%	$\frac{10}{\% SiO_2 + 2}$	None	.05	None	.05	None	Mg/m^3

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.

Section 9: Physical and Chemical Properties

Appearance

Physical State: Free Flowing, Granular Solid
Color: Grayish White
Odor: Odorless
Odor threshold: Not applicable
pH: Not Applicable – Not soluble
Melting point: 2912°F
Boiling point: Not applicable – 4000 °F
Flash point: Non-combustible
Burning time: Not applicable
Burning rate: Not applicable
Evaporation Rate: Not volatile
Flammability (solid, gas): Not applicable

Lower and Upper explosive flammable limits
Vapor pressure: Not volatile
Vapor density: Not Volatile
Relative density: 2.60 (Quartz)
Solubility: Not available
Solubility in water: Insoluble
Partition coefficient: n-octanol/water: Not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable
SADT: Not available
Viscosity: Not applicable

Section 10: Stability and Reactivity

Reactivity: Not applicable

Chemical Stability: Stable

Possibility of hazardous reactions: Will not occur.

Conditions to avoid: Avoid contact with active fluorine compounds. Fluorine compounds may react violently with crystalline silica.

Incompatible materials: Active fluorine compounds

Hazardous decomposition products: Silica dissolves in hydrofluoric acid producing a corrosive gas-silica tetrafluoride. Product will not decompose.

Section 11: Toxicology

Routes of Exposure: Inhalation, eye contact, skin contact

Irritation/Corrosion:

Skin: Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.
Inhalation: 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.
Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort

Mutagenicity:

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Effects:

Acute: One form of silicosis, Acute Silicosis, can occur with exposure to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

Chronic: The adverse health effects – lung disease, silicosis, cancer, autoimmune disease, tuberculosis, and nephrotoxicity – are chronic effects.

Symptoms related to physical, chemical and toxicological characteristics:

There are generally no signs or symptoms of exposure to crystalline silica (quartz). Often, chronic silicosis has no symptoms. The symptoms of chronic silicosis, if present, are shortness of breath, wheezing, cough and sputum production. The symptoms of acute silicosis are the same as those associated with chronic silicosis; additionally, weight loss and fever may also occur. The symptoms of scleroderma include thickening and stiffness of the skin, particularly in the fingers, shortness of breath, difficulty swallowing and joint problems.

Numerical Measures of Toxicity: Not applicable

NTP/IARC/OSHA:

Suspected Caner Agent: Yes	Federal OSHA: No	NTP: Yes	IARC: Yes

NTP: Respirable crystalline silica has been listed in the Sixth Annual Report on Carcinogens.
IARC: Monographs on the Evaluation of the Carcinogenic Risk of Chemical to Humans (vol. 68,

1997) concludes that there is sufficient evidence in humans for the carcinogencity of inhaled crystalline silica in the forms of quartz and cristobalite (Group 1) in certain industrial circumstances, but that carcinogenicity may be dependent on inherent characteristics of crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

SILICOSIS

The major concern is silicosis (lung disease), caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.
Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to levels above the occupational exposure limits for airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 cm in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Siple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 cm in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease (cor Pumonlae) secondary to the lung over a relatively short period; the lung lesions can appear within five years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid. Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

Section 12: Ecological Information

Ecotoxicity: Not expected to be harmful to aquatic organisms. Discharging sand and gravel 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, and global warming potential) are expected from this component.

Section 13: Disposal Considerations

Disposal methods: 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.

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.

Section 14: Transportation Information

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

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	-	-	-
Additional information	-	-	-

Section 15: Regulatory Information

U.S. Federal and State regulations:

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.

RCRA: Crystalline silica (quartz) is not classified as hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR 261 et seq. SARA 311/312: Hazard categories for SARA Section 311/312 Reporting: Chronic Health CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR 302.

Emergency Planning and Community Right to Know Act: Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

Clean Air Act: Crystalline silica (quartz) mined and processed by Red Flint Sand and Gravel was not processed with or does not contain any Class I or Class II ozone depleting substances.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR 175.300(b) (3) (xxvi).

NTP: Respirable crystalline silica (quartz) is classified as a known human carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

California Proposition 65: Crystalline silica (quartz) is classified as a substance known to the state of California to be a carcinogen.

OTHER:

EINECS NO.: 231-545-4

EEC Label (Risk/Safety Phrases): R 48/20, R 40/20, S22, S38

IARC: Crystalline silica (quartz) is classified in IARC Group 1. National, state, provincial or local emergency planning, community right to know or other laws, regulations or ordinances may be applicable – consult applicable national, state provincial or local laws.

Japan MITI: All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

Canada WHMIS: D2A "Materials Causing Other Toxic Effects"

Section 16: Other Information

More information can be obtained from:

Occupational Safety and Health Administration (OSHA)
Phone number: 1-800-321-OSHA
Website: http://www.osha.gov/

National Institute for Occupational Safety and Health (NIOSH)
Phone Number: 1-800-35-NIOSH
Website: http://www.cdc.gov/niosh

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of sand and gravel as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with sand and gravel to produce sand and gravel products. Users should review other relevant material safety data sheets before working with this sand and gravel or working on sand and gravel products.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Southern Products & Silica Co., except that the product shall conform to contracted specifications. The information provided herein was believed by the Southern Products & Silico Co. to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act CFR — Code of Federal Regulations
DOT — Department of Transportation
GHS — Globally Harmonized System
HEPA — High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit
RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet

TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Date Prepared: June 2015

Sand and Gravel

Danger!

Harmful if swallowed. May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. 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. If exposed or concerned: Get medical advice/attention. If swallowed: Immediately call a poison center/doctor. Rinse mouth. Get medical advice/attention if you feel unwell. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

See Safety Data Sheet for more information on this product.

Southern Products & Silica Co., Hoffman, NC 28437 TEL: (910) 281-3189