

SAFETY DATA SHEETS

SAND

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sand
MANUFACTURER: Incredible Products LLC.
ADDRESS: 1601 McKinley Rd. St. Mary, OH 45885
INFORMATION PHONE: 567-297-3700
EMERGENCY PHONE: 800-424-9300 August 12, 2020
REVISION DATE: November 3, 2021

SECTION 2: HAZARDOUS IDENTIFICATION

Classification:

Skin Irritation- Category 2
Eye Irritation- Category 2A
Respiratory Sensitizer (Solid/Liquid)- N/A
Skin Sensitizer- N/A
Carcinogenicity- Category 1A

Pictograms:



Signal Word:

Danger

Hazardous Statements - Health:

May cause cancer by inhalation. Causes damage to lungs, kidneys and autoimmune system through prolonged or repeated exposure by inhalation.

H319 - May cause eye irritation

H315 - May cause skin irritation

H317 - May cause an allergic skin reaction

H335 - May be harmful if inhaled

Precautionary Statements - General:

P101 - If medical advice is needed, have a product container or label at hand.

Precautionary Statements - Prevention:

P264 - Wash thoroughly after handling.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P284 - <In case of inadequate ventilation> wear respiratory protection.

Precautionary Statements - Response:

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P333 + P313 - If skin irritation or a rash occurs: Get medical advice/attention.

P321 - Specific treatment (see section 4 on this SDS).

P362 + P364 - Take off contaminated clothing. And wash it before reuse.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

Precautionary Statements - Storage:

Avoid creating dust when storing

P405 - Store locked up.

Precautionary Statements - Disposal:

P501 - Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

Component (S) Chemical Name	CAS Registry NO	% by weight (approx)
Silicon Dioxide (SiO ₂) (1)	7631-86-9	50-100
Calcium Carbonate (CaCO ₃)	471-34-1	0-50

SECTION 4: FIRST AID MEASURES

Inhalation:

If excessive inhalation occurs, remove the person to fresh air. Dust in the throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or develops later.

Skin Contact:

Rinse skin with soap and water after manually handling and wash contaminated clothing if there is potential for direct skin contact. Contact a physician if irritation persists or develops later.

Eye Contact:

Immediately 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. Remove contact lenses, if present and easy to do, and continue rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or develops later.

Ingestion:

If gastrointestinal discomfort occurs and if a person is conscious, give a large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Not flammable; use extinguishing media compatible with surrounding fire

Unsuitable Extinguishing Media:

N/A

Specific Hazards in Case of Fire:

Contact with powerful oxidizing agents may cause fire and/or explosions

Fire-fighting Procedures:

Isolate the immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from the immediate hazard area if it can be done safely. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

Do not dry sweep spilled material. Collect the material using a method that does not produce dust such as a High-Efficiency Particulate Air (HEPA) vacuum or thoroughly wetting down the dust before cleaning up. Keep unnecessary people away; isolate hazard areas and deny entry. Do not touch or walk through spilled material. Clean up immediately.

Recommended Equipment:

Wear appropriate personal protective equipment including appropriate respirators during and following clean up or whenever airborne dust is present to ensure worker exposures remain below occupational exposure limits

Personal Precautions:

Avoid breathing vapors. Avoid contact with skin, eyes or clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

SECTION 7: HANDLING AND STORAGE

General:

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.

Ventilation Requirements:

Use adequate ventilation and dust collection equipment and ensure that the dust collection system is adequate to reduce airborne dust levels to below the appropriate OELs. If the airborne dust levels are above the appropriate OELs, use respiratory protection during the establishment of engineering controls.

Storage Room Requirements:

Dust containing respirable crystalline silica and other components that may be irritants may be generated during processing, handling and storage. Use good housekeeping procedures to prevent the accumulation of dust in the workplace.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne OELs for Components of All Purpose Sand:

COMPONENT(S) CHEMICAL NAME	MSHA/OSHA PEL	ACGIH TLV-TWA	NIOSH REL
Silicon Dioxide, SiO ₂ §	(R) 0.05 mg/m ³ (R) 0.025 mg/m ³ (AL)	(R) 0.025 mg/m ³ #	(R) 0.05 mg/m ³ #
Calcium Carbonate, CaCO ₃	(T) 15 mg/m ³ , (R) 5 mg/m ³	N/A	(T) 10 mg/m ³ , (R) 5 mg/m ³

§ The OSHA OELs for respirable crystalline silica are listed in the table. As of June 28, 2018, the MSHA standard for respirable crystalline silica has not been changed but may be revised in the future. The MSHA PEL for dust containing crystalline silica (quartz) is based on the silica content of the respirable dust sample and is calculated as: 10 mg/m³ /(% SiO₂ +2). The MSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz). # The ACGIH and NIOSH limits are for crystalline silica (quartz), independent of the dust concentration. The ACGIH TLV for crystalline silica as cristobalite is equal to the TLV for crystalline silica as quartz. In 2005, ACGIH withdrew the TLV for crystalline silica as tridymite. The NIOSH REL for crystalline silica as cristobalite and tridymite is the same as for quartz. Refer to Section X for thermal stability information for crystalline silica (quartz). AL: Action Level (R): Respirable Fraction. (T): Total Dust.

Airborne OELs for Inert/Nuisance Dust:

Standard	Respirable Dust	Total Dust
MSHA/OSHA PEL (as Inert or Nuisance Dust)	5 mg/m ³	15 mg/m ³
ACGIH TLV (as Particles Not Otherwise Specified)	3 mg/m ³	10 mg/m ³
NIOSH REL (Particulates Not Otherwise Regulated)	N/A	

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. If irritation persists, get medical attention immediately. There is potential for severe eye irritation if exposed to excessive concentrations of dust for those using contact lenses.

Skin Protection:

Use appropriate protective gloves if manually handling the product.

Respiratory Protection:

Respirators are recommended

Appropriate Engineering Controls:

Use local exhaust, general ventilation or natural ventilation adequate to maintain exposures below appropriate exposure limits.

Other control measures: Respirable dust and crystalline silica levels should be monitored regularly. Dust and crystalline silica levels in excess of appropriate exposure limits should be reduced by implementing feasible engineering controls, including (but not limited to) dust suppression (wetting), ventilation, process enclosure and enclosed employee work stations.

RESPIRATORY PROTECTION Respirator Recommendations: For respirable crystalline silica levels that exceed or are likely to exceed appropriate exposure limits, a NIOSH-approved particulate filter respirator must be worn. Respirator use must comply with applicable MSHA or OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.

NIOSH recommendations for respiratory protection include:

Up to 0.5 mg/m³ :

(APF = 10) Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.

Up to 1.25 mg/m³ :

(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate (100-series) filter. (APF = 25) Any supplied-air respirator operated in a continuous-flow mode Up to 2.5 mg/m³ : (APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter. (APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter

Up to 25 mg/m³ :

(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode
Emergency or planned entry into unknown concentrations or IDLH conditions (50 mg/m³ for crystalline silica-quartz): A self-contained breathing apparatus (SCBA) that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode or any supplied-air respirator that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus. Escape from unknown or IDLH conditions: An air-purifying, full-face piece respirator with a high-efficiency particulate (100-series) filter or any appropriate escape-type, self-contained breathing apparatus. If the workplace airborne crystalline silica concentration is unknown for a given task, conduct air monitoring to determine the appropriate level of respiratory protection to be worn. Consult with a certified industrial hygienist, your insurance risk manager or the OSHA Consultative Services group for detailed information. Ensure appropriate respirators are worn, as needed, during and following the task, including clean up or whenever airborne dust is present, to ensure worker exposures remain below OELs.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 2.6-2.7

Boiling Point: N/A

Evaporation Rate: N/A

Vapor Density: N/A

Solubility in H₂O: Negligible

SECTION 10: STABILITY AND REACTIVITY

Stability:

This product is stable

Conditions to Avoid:

Contact with incompatible materials.

Hazardous Reactions/Polymerization:

Not known to polymerize

Incompatible Materials:

Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions.

Hazardous Decomposition Products:

Silica dissolves in hydrofluoric acid producing a corrosive gas - silicon tetrafluoride.

SECTION 11: TOXICOLOGICAL INFORMATION

Health Effects: The information below represents an overview of health effects caused by overexposure to one or more components in all purpose sand.

Primary routes(s) of exposure: Inhalation, Skin, Ingestion

EYE CONTACT: Direct contact with dust may cause irritation by mechanical abrasion. Conjunctivitis may occur

SKIN CONTACT: Direct contact may cause irritation by mechanical abrasion. Some components of material are also known to cause irritant effects to skin and mucous membranes.

SKIN ABSORPTION: Not expected to be a significant route of exposure

INGESTION: Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury. Ingestion of large amounts may cause gastrointestinal irritation and blockage

INHALATION: Dust may irritate nose, throat, mucous membranes and respiratory tract by mechanical abrasion. Coughing, sneezing, chest pain, shortness of breath, inflammation of mucous membrane, and flu-like fever may occur following exposures in excess of appropriate exposure limits.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE Inhaling respirable dust and/or crystalline silica may aggravate existing respiratory system disease(s) (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) and/or dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions. Smoking and obstructive/restrictive lung diseases may also exacerbate the effects of excessive exposure to this product.

This product is a mixture of components. The composition percentages are listed in Section III.

Toxicological information for each component is listed below:

Silicon Dioxide: It is composed of amorphous and crystalline forms of silica. In some batches, crystalline silica may represent up to 100% of silicon dioxide

Exposure route: Eyes, respiratory system.

Target organs: Eyes, skin, respiratory system.

ACGIH, MSHA, and OSHA have determined that adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate exposure limits. Lower exposure limits may be appropriate for some individuals including persons with pre-existing medical conditions as described under medical conditions aggravated by exposure

A. SILICOSIS

The major concern is silicosis (lung disease), caused by the inhalation and retention of respirable crystalline silica dust. Silicosis leads to conditions such as lung fibrosis and reduced pulmonary function. The form and severity in which silicosis manifests itself, depends in part on the type and extent of exposure to silica dusts: chronic, accelerated and acute forms are recognized. In later stages the critical condition may become disabling and potentially fatal. Restrictive and/or obstructive changes in lung function may occur due to exposure. A risk associated with silicosis is development of pulmonary tuberculosis (silico-tuberculosis). Respiratory insufficiencies due to massive fibrosis and reduced pulmonary function, possibly with accompanying heart failure, are other potential causes of death due to silicosis.

Chronic or Ordinary Silicosis is the most common form of silicosis and can occur after many years of exposure to levels above the OELs for airborne respirable crystalline silica dust. Not all individuals with silicosis will exhibit symptoms (signs) of the disease. 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; heart enlargement and/or failure. It is further defined as either simple or complicated silicosis.

Simple Silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple 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 centimeter 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 can result in heart disease (or pulmonale) secondary to lung disease.

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) 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 a rapidly progressive, incurable lung disease and is typically fatal.

B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that there is "sufficient evidence in humans for the carcinogenicity of crystalline silica in the form of quartz or cristobalite", there is "sufficient evidence in experimental animals for the carcinogenicity of quartz dust" and that there is "limited evidence in experimental animals for the carcinogenicity of tridymite dust and cristobalite dust." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)." The IARC evaluation noted that not all industrial circumstances

SECTION 11: TOXICOLOGICAL INFORMATION

studied evidenced carcinogenicity. The monograph also stated that "Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "Silica Dust, Crystalline, in the Form of Quartz or Cristobalite" (2012).

NTP - In its Eleventh Annual Report on Carcinogens, concluded that respirable crystalline silica is known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust.

OSHA - Crystalline silica is not on the OSHA carcinogen list.

CALIFORNIA PROPOSITION 65 - Crystalline silica in October 1996 was listed on the Safe Drinking Water and Toxic Enforcement ACT of 1986 as a chemical known to the state to cause cancer or reproductive toxicity.

There have been many articles published on the carcinogenicity of crystalline silica, which the reader should consult for additional information; the following are examples of recently published articles: (1) "Dose-Response Meta-Analysis of Silica and Lung Cancer", *Cancer Causes Control*, (20):925-33 (2009); (2) "Occupational Silica Exposure and Lung Cancer Risk: A Review of Epidemiological Studies 1996-2005", *Ann Oncol*, (17) 1039-50 (2006); (3) "Lung Cancer Among Industrial Sand Workers Exposed to Crystalline Silica", *Am J Epidemiol*, (153) 695-703 (2001); (4) "Crystalline Silica and The Risk of Lung Cancer in The Potteries", *Occup Environ Med*, (55) 779-785 (1998); (5) "Is Silicosis Required for Silica-Associated Lung Cancer?", *American Journal of Industrial Medicine*, (37) 252- 259 (2000); (6) "Silica, Silicosis, and Lung Cancer: A Risk Assessment", *American Journal of Industrial Medicine*, (38) 8-18 (2000); (7) "Silica, Silicosis, and Lung Cancer: A Response to a Recent Working Group Report", *Journal of Occupational and Environmental Medicine*, (42) 704-720 (2000).

C. AUTOIMMUNE DISEASES

There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. For a review of the subject, the following may be consulted: (1) "Antinuclear Antibody and Rheumatoid Factor in Silica-Exposed Workers", *Arh Hig Rada Toksikol*, (60) 185-90 (2009); (2) "Occupational Exposure to Crystalline Silica and Autoimmune Disease", *Environmental Health Perspectives*, (107) Supplement 5, 793-802 (1999); (3) "Occupational Scleroderma", *Current Opinion in Rheumatology*, (11) 490-494 (1999); (4) "Connective Tissue Disease and Silicosis", *Am J Ind Med*, (35), 375-381 (1999).

D. TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: (1) "Tuberculosis and Silicosis: Epidemiology, Diagnosis and Chemoprophylaxis", *J Bras Pneumol*, (34) 959-66 (2008); (2) *Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases"*, Parkes, W. Raymond (1994); (3) "Risk of Pulmonary Tuberculosis Relative to Silicosis and Exposure to Silica Dust in South African Gold Miners," *Occup Environ Med*, (55) 496-502 (1998); (4) "Occupational Risk Factors for Developing Tuberculosis", *Am J Ind Med*, (30) 148-154 (1996).

E. KIDNEY DISEASE

There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of kidney diseases, including end stage renal disease. For additional information on the subject, the following may be consulted: (1) "Mortality from Lung and Kidney Disease in a Cohort of North American Industrial Sand Workers: An Update", *Ann Occup Hyg*, (49) 367-73 (2005); (2) "Kidney Disease and Silicosis", *Nephron*, (85) 14-19 (2000); (3) "End Stage Renal Disease Among Ceramic Workers Exposed to Silica", *Occup Environ Med*, (56) 559-561 (1999); (4) "Kidney Disease and Arthritis in a Cohort Study of Workers Exposed to Silica", *Epidemiology*, (12) 405-412 (2001).

F. NON-MALIGNANT RESPIRATORY DISEASES

NIOSH has cited the results of studies that report an association between dust found in various mining operations and non-malignant respiratory disease, particularly among smokers, including bronchitis, emphysema, and small airways disease. NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica, published in April 2002, available from NIOSH.

Respirable dust containing newly broken 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 pieces of silica.

Calcium Carbonate:

Exposure route: Inhalation, skin/eye contact.

Target organs: Eyes, skin, respiratory system.

Acute effect: Irritation of the eyes, skin and respiratory system and cough. It has been reported that there may be a silicosis risk when using impure limestone containing in excess of 3% quartz. However, it is claimed that pure calcium carbonate does not cause pneumoconiosis. Adverse health effects have generally not been reported in literature among workers using CaCO₃.

Chronic effect/carcinogenicity: Not classifiable as human carcinogen

Acute Toxicity Estimates for All Purpose Sand – Not Available

SECTION 12: ECOLOGICAL INFORMATION

N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:
Waste management should be in full compliance with federal, state, and local laws.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT Information: Not regulated
IMDG Information: Not regulated
IATA Information: Not regulated

SECTION 15: REGULATORY INFORMATION

OSHA: Crystalline Silica is not listed as a carcinogen.

SARA Title III: Section 311 and 312: Immediate health hazard and delayed health hazard.

TSCA: All components of the product appear on the EPA TSCA chemical substance inventory.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

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 §302.4

EPCRA (Emergency Planning and Community Right to Know Act): Crystalline silica (quartz) is not an extremely hazardous substance under regulations of the Emergency Planning and Community Right to Know Act, 40 CFR Part 355, Appendices A and B and is not a toxic chemical subject to the requirements of Section 313.

Clean Air Act: Crystalline silica (quartz) mined and processed by Martin Marietta Materials 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). (The FDA standard primarily applies to products containing silica used in the coatings of food contact surfaces).

California Proposition 65: Respirable crystalline silica is classified as a substance known to the state of California to be a carcinogen.

Massachusetts Toxic Use Reduction Act: Respirable crystalline silica is considered toxic per the Massachusetts Toxic Use Reduction Act when used in abrasive blasting and molding.

Pennsylvania Worker and Community Right to Know Act: Quartz is considered hazardous for purposes of the Act, but it is not a special hazardous substance or an environmental hazardous substance.

SECTION 16: OTHER INFORMATION

DISCLAIMER

The information contained herein is based on the data available and is believed to be accurate, however, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product