SAFETY DATA SHEET
Silica Sand Products
Short Mountain Silica
170 Silica Road, Mooresburg, Tennessee 37811
Information (423) 272-5700
Effective Date: 1/14/2025 MSDS: 001

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Names: Silica Sand, 325 Mesh Grade Silica, 270 Mesh Grade Silica, 200 Mesh Grade Silica, Medium Sand Industrial/Commercial Grade, Fine Grade Industrial/Commercial Sand, Divot Fix Sand, Divot Fix with Peat, Ground Sand, and Silica Flour. Company Name: Short Mountain Silica Information Phone Number: 423-272-5700 Emergency: 423-272-5700

SECTION 2: HAZARD IDENTIFICATION

Classification of the substance or mixture



Physical:
Causes Skin and Eye irritation.
Causes Respiratory Tract Irritation

Label elements
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS)
Hazard pictograms



Signal word Danger
Hazard statements
Irritant (skin and eye)
Precautionary statements
Wear protective gloves/protective clothing/ eye protection/face protection.
Wash thoroughly after handling
Specific treatment (see on this label).
Take off contaminated clothing and wash before reuse.
If skin irritation occurs: Get medical advice/attention
If on Skin: Wash with plenty of water
If in Eyes: Flush eyes with water for 15-min.
Utilize NIOSH approved respirators

Classification of the substance or mixture



Health:

Carcinogenicity Category 1A
Specific Target Organ Toxicity Repeated Exposure

Label elements
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS)
Hazard pictogram



Signal word Danger
Hazard statements
May cause silicosis, cancer or other nonmalignant respiratory disease
Precautionary statements
Utilize NIOSH approved respirators
Do not breathe dust
Wash thoroughly after handling
Wear protective gloves/ protective clothing/ eye protection/ face protection

Emergency Overview: This product is colorless to white crystals; impurities can produce other colors. It has no odor. It is not flammable, combustible, or explosive. It can cause mechanical irritation and possibly abrasion to the eyes and skin. The respirable silica particles that cause disease are not visible to the eye, and therefore the absence of visible airborne dust does not necessarily indicate the airborne concentration is below acceptable exposure limits. Crystalline silica products are not known to be a hazard to the natural environment. Divot Fix with Peat is a mixture of colorless to white crystals and brown fibrous organic matter. Peat can burn. Symptoms of Overexposure : Inhalation: Symptoms of silica overexposure are not likely to occur until disease has developed, which may range from a few weeks to years following exposure onset, depending on degree of exposure. Earliest symptoms of silicosis may include cough, expectoration, shortness of breath upon exertion. Peat inhalation may cause respiratory irritation, or allergy-like symptoms. Eyes/Skin: May cause mechanical irritation, including abrasion. Peat may cause skin infection, which is more likely if skin is broken. Ingestion: None identified. Health Effects from Exposure: Silicosis, a fibrosis (scarring) of the lung, is the disease most associated with exposure to respirable crystalline silica. Silicosis may develop or continue to progress after exposure has ended, and effects can range from no obvious symptoms to disabling to fatal. Silicosis is known to increase the risk of developing tuberculosis and other lung infections. Acute silicosis may develop within a few weeks or months following onset of high inhalation exposures. Symptoms include severe disabling shortness of breath, weakness, and weight loss, and is often fatal. Accelerated silicosis can occur after 5 to 10-years of high exposures, and symptoms include severe shortness of breath, weakness, and weight loss. Acute and accelerated silicosis may be preceded or accompanied by silicoproteinosis, an alveolar filling process comparable to pulmonary alveolar proteinosis. Chronic silicosis generally occurs after 15 to 20 years of low exposure, and symptoms may include fatigue, extreme shortness of breath, chest pain, or respiratory failure in later stages. Cancer: IARC determined that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). The NTP concluded that respirable crystalline silica, primarily quartz dust occurring in industrial and occupational settings, is a known human carcinogen. OSHA has not regulated crystalline silica based on cancer prevention, but warns of the cancer hazard though educational materials and the special emphasis crystalline silica program. The American Conference of Governmental Industrial Hygienists has adopted an A2 (suspected human carcinogen) designation for respirable crystalline silica (quartz). Crystalline silica (airborne particles of respirable size) is identified by the State of California as a substance known to cause cancer. Other potential health effects of respirable crystalline silica have been summarized in the April 2002 NIOSH Hazard Review "Health Effects of Occupational Exposure to Respirable Crystalline Silicaî, from which the following were taken. Additional details are found in Section 11. Nonmalignant Respiratory Disease (NMRD) Mortality: Studies of silica-exposed workers have found increases in deaths from NMRD, a broad category that can include silicosis and other pneumoconiosis, chronic bronchitis, emphysema, asthma, and other related respiratory conditions (Silica is not identified as a cause of asthma). Autoimmune and Chronic Renal Diseases: The most frequently reported

autoimmune diseases by some studies of occupationally exposed workers were scleroderma, systemic lupus erythematosus (lupus), rheumatoid arthritis, autoimmune hemolytic anemia and dermatomyosistis or dermatopolymyosistis. Some studies indicate chronic kidney disease and end-stage renal disease related to crystalline silica exposure. Other: Bodily deposits of silica have been reported at locations other than the lungs. In some studies of workers exposed to crystalline silica, liver changes and cancer have been identified. A type of heart enlargement may occur as a complication of silicosis. Silica dust exposure may be associated with abrasion-related deterioration of dental health. Additional Information on Divot Fix with Peat Moss: Some studies of peat moss plant workers have found chronic bronchitis and hypersensitivity pneumonitis related to workplace exposure. Medical Conditions Aggravated by Exposure: Some lung diseases (such as chronic obstructive pulmonary disease and emphysema) can be aggravated by exposure to crystalline silica. Persons with existing lung disease and occupational crystalline silica exposure should discuss this with their health care provider. Silicosis disease, and possibly crystalline silica exposure, increases susceptibility to tuberculosis. Conditions involving weakened immune systems, respiratory disease, or allergies may be aggravated by exposure to peat.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients Name: Silica, Quartz, Crystalline Silica, SiO2, CAS Number: 14808-60-7 Concentration (%): >99 (Note: Divot Fix with Peat includes approximately 10% by volume Canadian Spagnum Peat. Neither OSHA or ACGIH has established an exposure limit for peat.) OSHA-PEL (respirable quartz)* : 10mg/m3 of respirable dust (8-Hour Time Weighted Average) %SiO2+2 * OSHA also has an 8-hr. PEL for crystalline silica based on a total dust concentration of 30 mg/m3 %SiO2+2 ACGIH-TLV7 (respirable quartz) 0.05 mg/ m3 (8-Hour Time Weighted Average) NIOSH-REL (respirable quartz) 0.05 mg/ m3 (10-Hour Time Weighted Average, 40-hour work week) Crystalline silica meets the definition of a hazardous chemical as defined by the Occupational Safety and Health Administration (OSHA) Hazard Communication Regulations (29 CFR ß 1910.1200). Both the US EPA and NIOSH have reported residual risk of silicosis at the OSHA PEL and NIOSH REL values. We recommend maintaining workplace exposure below the TLVÈ value of 0.05 mg/ m3. Exposure Note: Users must be aware that finely ground sands such as silica flour contain a much higher percentage of respirable size silica particles than other products, and pose a greater inhalation hazard. Quartz is the most common form of crystalline silica, which occurs naturally in soils and rock. Cristobalite and tridymite forms of crystalline silica also occur naturally, and may be formed if crystalline silica (quartz) is heated sufficiently. When heated to more than 8700C tridymite can be formed; and to more than 14700C cristobalite can be formed. OSHA has established PELs for tridymite and cristobalite at one-half the PELs for crystalline silica (quartz). The NIOSH REL and ACGIH TLV7 are the same for all three of these crystalline silica forms.
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SECTION 4: FIRST- AID MEASURES

Skin: Clean and treat appropriately if abrasion occurs; or if peat contacts broken skin. Obtain medical attention if skin sores occur from handling peat. Eyes: Flush eyes with water for 15-min. if irritation occurs. Obtain medical attention if eye pain or irritation persists. Ingestion: Obtain medical attention if large quantity swallowed. Inhalation: No specific treatment as harmful affects are not immediate. Remove to fresh air if gross inhalation of dust occurs (or allergy type symptoms occur with peat products). Give artificial respiration if not breathing, or administer oxygen if difficulty breathing, using trained personnel. Get medical attention. Note to Physicians: Persons with silicosis are more susceptible to tuberculosis and other lung infections. Pulmonary function tests are not a diagnostic tool for silicosis because no single pattern of pulmonary function abnormality is associated with silica exposure or silicosis. NIOSH recommends medical examinations be made available to crystalline silica exposed workers.

SECTION 5: FIRE-FIGHTING MEASURES

Silica sand is not combustible, flammable, or explosive. Fire-fighting measures are not applicable. Molten or heated batches can retain sufficient heat to ignite nearby combustible and flammable materials. The Divot Fix with Peat has not been tested for flammability characteristics. Peat moss can burn and burning may continue inside bags or piles after surface fire is out. If burning, extinguish with any standard agents, including sand; break bags or separate pile to assure fire is extinguished. Upon burning peat moss is expected to produce decomposition products consistent with wood and other vegetative matter.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Recover for use or disposal. Do not sweep. Wet to prevent dust production prior to scooping up into covered containers. Use HEPA equipped vacuum or wet methods to remove residuals. Use peat product for soil conditioning. See Section 8 for selection of personal protective equipment. Prepare for accidental releases according to requirements of 29 C.F.R. ß 1910.120. Generally not considered an environmental contaminant B check local ordinances, regulations concerning disposal restrictions.

SECTION 7: HANDLING and STORAGE

Storage Practices: Prevent generation of airborne dust. Keep products containing peat away from ignition sources. Handling Practices: PRODUCT IS NOT TO BE USED FOR ABRASIVE BLASTING. Use only in well-ventilated areas, minimizing dust generation and accumulation. Avoid breathing dust; note that respirable crystalline silica particles are not visible to the unaided human eye. All handling should be done with required personal protective equipment and controls as outlined in Section 8, including periods of maintenance on contaminated equipment. Avoid contact with eyes, skin, and clothing. Empty containers should be handled to prevent release of dust into workplace air. Compress collapsible containers in equipment or areas designed to capture expelled dust; rinse reusable containers with water. Remove contaminated clothing and wash before reuse. Do not take contaminated work clothes home. Contaminated work clothes should be laundered by individuals who have been informed of the hazards of exposure to crystalline silica and trained in exposure control techniques. Eye wash fountains should be provided in the immediate work area for emergency use. Do not eat, smoke, apply cosmetics, or drink where the product is handled, processed, or stored; and wash before eating, smoking, drinking, or applying cosmetics. Wash to remove product from exposed skin, and wash exposed skin at end of the shift when working in crystalline silica exposure areas. Cover breaks in skin before handling the product.

SECTION 8: EXPOSURE CONTROLS and PERSONAL PROTECTION

Ventilation and Engineering Controls: Use process enclosures, efficient local exhaust ventilation, wetting, and other process/engineering controls to maintain exposures below the TLVÆ for respirable crystalline silica. Respiratory Protection: Utilize NIOSH approved respirators for particulates whenever potential exposures are not clearly below the TLVÆ; type of respirator needed will depend on knowledge of airborne concentrations of respirable crystalline silica, which should be measured. NIOSH approved respirators should be used when peat dust is present, and by persons with underlying health conditions that may be aggravated by inhalation of peat dust. A respiratory protection program meeting requirements of 29 CFR ß 1910.134 or equally protective measures is required. Eye, Hand and Body Protection: Select personal protective equipment (PPE) such as safety glasses, face shields, gloves, or other job specific protective equipment, based on adherence to PPE Hazard Assessment Certification as required by 29 CFR ß 1910.132 (d)(2).

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

Vapor Density: Not Applicable Evaporation Rate: Not Determined Specific Gravity (H2O=1): 2.65 (not determined for peat products) Boiling Point: 2230° C/4046° F (not determined for peat products) Melting Point/Range: 1610° C/3110° F (not determined for peat products) Solubility in Water: Less than 12 micrograms/ml (not determined for peat products) Vapor Pressure (mm Hg): Negligible without heating pH: Not Determined Odor: Silica has none. Silica products containing peat may have an earthy odor. Chemical Formula: SiO2 (not applicable for peat) Molecular Wt.: 60.1 (not applicable for peat) Auto Ignition Temperature of Peat: 260∞C Appearance and Color: Colorless to white crystals or powder. Impurities can produce other colors. Peat is a brown fibrous organic matter. How to Detect this Substance (warning properties): No warning properties. Absence of visible dust is not evidence of absence of airborne respirable dust, as the disease causing respirable crystalline silica particles are smaller than can be seen by the unaided human eye. Peat product may have an earthy odor.

SECTION 10: STABILITY and REACTIVITY

Stability: Stable Conditions to Avoid: None, other than prevention of airborne dispersion. Keep products containing peat away from ignition sources. Materials with which Substance is Incompatible: Strong oxidizing agents such as fluorine, chlorine trifluoride, hydrogen fluoride, and oxygen trifluoride. Hazardous Polymerization: Will not occur. Products of Decomposition: Dissolving in hydrofluoric acid produces silicon tetrafluoride, a corrosive gas. Heating crystalline silica (quartz) to more than 8700C can change it to other forms of crystalline silica (See Section 2).

SECTION 11: TOXICOLOGICAL INFORMATION

Other potential health effects of respirable crystalline silica have been summarized in the April 2002 NIOSH Hazard Review ìHealth Effects of Occupational Exposure to Respirable Crystalline Silicaî, from which the following were taken. Nonmalignant Respiratory Disease (NMRD) Mortality: Epidemiologic studies of silicaexposed workers found significant increases in mortality from NMRD, a broad category that can include silicosis and other pneumoconiosis, chronic bronchitis, emphysema, asthma, and other related respiratory conditions. Autoimmune and Chronic Renal Diseases: Published case reports have described various autoimmune disorders in workers or patients who were occupationally exposed to crystalline silica. The most frequently reported autoimmune diseases were scleroderma, systemic lupus erythematosus (lupus), rheumatoid arthritis, autoimmune hemolytic anemia, and dermatomyositis or dermatopolymyositis. Case reports have also described health effects such as the following that may be related to the immunologic abnormalities in patients with silicosis: chronic renal disease, ataxic sensory neuropathy, chronic thyroiditis, hyperthyroidism (Graves= disease), monoclonal gammopathy, and polyarteritis nodosa. Epidemiologic studies have reported statistically significant numbers of excess cases or deaths from known autoimmune diseases or immunologic disorders (scleroderma, systemic lupus erythematosus, rheumatoid arthritis, and sarcoidosis), chronic renal disease, and subclinical renal changes. Epidemiologic studies found statistically significant associations between occupational exposure to crystalline silica dust and several renal diseases or effects, including end-stage renal disease morbidity, morbidity from end-stage renal disease caused by glomerulonephritis, chronic renal disease mortality, Wegenerís granulomatosis, and subclinical renal changes. Other: Some studies have reported liver changes and liver and other cancers in workers exposed to crystalline silica. It has been reported that silica particles may be transported from the lungs to other organs or body sites, and that workers occupationally exposed to silica have had peritoneal silicosis misdiagnosed as pancreatic cancer. Silica dust exposure may be associated with abrasion-related deterioration of dental health. Enlargement of the right ventricle of the heart may occur as a complication of silicosis. Additional Health Effects / Toxicity Data (Source: International Program on Chemical Safety, Concise International Chemical Assessment Document (CICAD) No. 24, 2000). Quartz did not test positive in standard bacterial mutagenesis assays. Results of genotoxicity studies of quartz conflict, and a direct genotoxic effect for quartz has not been confirmed or ruled out. Data on the reproductive and developmental effects of quartz in laboratory animals are not available. No useful data are available on lethal doses of quartz in experimental animals.

SECTION 12: ECOLOGICAL INFORMATION

The adverse effects of quartz in aquatic organisms and terrestrial mammals have not been studied. Terrestrial mammals and birds exposed to quartz in the natural environment, especially in desert or coastal areas, show pathological lesions similar to those seen in humans with silicosis. (Source: International Program on Chemical Safety, Concise International Chemical Assessment Document (CICAD) No. 24, 2000).

SECTION 13: DISPOSAL CONSIDERATIONS

General: The packaging and material may generally be landfilled; but users should consult local and state regulations for potential exceptions. RCRA: Crystalline silica (quartz) nor peat is classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR ß 261 et seq. The above applies to materials as sold by Short Mountain Silica. The material may be contaminated during use, and it is the responsibility of the user to affect appropriate disposal.

SECTION 14: TRANSPORT INFORMATION

UN number DOT, ADN, IMDG, IATA, ADR Non-Regulated Material
UN proper shipping name DOT, AND, IMDG, IATA Non-Regulated Material
ADR

Transport hazard class(es) DOT, ADN, IMDG, IATA, Non-Regulated Material
ADR

Packing group DOT, ADN, IMDG, IATA, ADR Non-Regulated Material

Environmental hazards Not applicable.

Trade Name: Silica Sand, 325 Mesh Grade Silica, 200 Mesh Grade Silica, Medium Sand Industrial/ Commercial Grade, Fine Grade Industrial/Commercial Sand, Divot Fix Sand, Ground Sand, and Silica Flour.

Special precautions for user	Not Applicable.
Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes	Not Applicable.

SECTION 15: REGULATORY INFORMATION

United States Federal Regulatory Information: TSCA No.: Crystalline silica (quartz) appears on the EPA Toxic Substances Control Act Inventory with the CAS No. 14808-60-7. RCRA: Crystalline silica (quartz) nor peat is classified as a hazardous waste under the Resource Conservation and Recovery Act Regulations at 40 CFR ß 261. CERCLA: Crystalline silica (quartz) nor peat is classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR ß 302. Emergency Planning and Community Right to Know Act: Crystalline silica (quartz) nor peat is an extremely hazardous substance under Section 302 and is not subject to Section 304 reporting requirements, and are not toxic chemical subject to the requirements of Section 313 reporting. Crystalline silica products meet the ìchronicî and ìacuteî hazard criteria for SARA Section 311/312 reporting requirements. Clean Air Act: Crystalline silica (quartz) and products produced by Short Mountain Silica were not processed with or do not contain any Class I or Class II ozone depleting substances, and are not listed under Section 112(r) of the Clean Air Act. Note: Some states or localities may have developed ordinances, codes, or regulations concerning hazardous substances that should be adhered to when storing, processing, or transporting these product.

SECTION 16: OTHER INFORMATION

Date of preparation / last revision 06/07/19

Some sources providing summaries of health effects of crystalline silica include: NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica. DHHS (NIOSH) Publication No. 2002-129 (April 2002) Crystalline Silica, Quartz Concise International Chemical Assessment Document (CIACD) Volume 24 (2000). Adverse Effects of Crystalline Silica Exposure. American Journal of Respiratory and Critical Care Medicine, Volume 155, 1997. This Material Safety Data Sheet provides data, which is relevant only to the specific material designated herein and does not relate to use in any process or in combination with any other substance. It is intended for use by technically capable persons and at their own risk and discretion. The information and recommendations contained herein are based upon data believed to be correct. Since conditions of use are outside our control this product is sold AS IS, we make no warranties express or implied and assume no liability in connection with the purchase, resale, use, misuse, or exposure to Short Mountain Silica products. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents. Any use of these data and information must be determined by the user in accordance with Federal, state and local laws.