SAFETY DATA SHEET

Section 1. Identification

GHS product Identifier TRM Particle Barrier
Other means of identification Not available

Relevant identified use of the substance or mixtures and uses advised against
Product used to protect structures from termite intrusion.

Supplier's details
Polyguard Products, Inc.
3801 South I 45
Ennis, TX 75119
Tel: (214) 515-5000

Emergency telephone number) with hours of operation)
CHEMTREC, US 1-800-424-9300 International 1-703-527-3887
(24/7)

Section 2. Hazards Identification

OSHA/HCS status
This material is considered hazardous by the OSHA Hazardous Communications Standard (49CFR1910.1200) .

Classification of the substance or mixture
Carcinogencity- Category 1A
Specific target organ toxicity (repeated exposure) -Category 1
Eye Damage/Irritation- Category 2A
Skin Corrosion/Irritation- Category 2

GHS label elements
Hazard pictogram

Signal word Danger
Hazard statement
May cause cancer by inhalation.
Causes damage to lungs, kidneys and immune system through prolonged or repeated exposure by inhalation.
Causes skin irritaiton and serious eye irritation.

Precautionary statements
Prevention
Obtain special instruction before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust. Wash hands thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Wear protective gloves and safety glasses or goggles.
In case of inadequate ventilation wear respiratory protection.

Response
If exposed or concerned: Get medical advice/attention. If swallowed: if gastrointestinal discomfort occurs and a person is conscious, give a large quantity of water and induce vomiting. Never give liquid or induce vomiting of an unconscious person. If on skin (or hair) Rinse skin after manually handling and wash contaminated clothing if there is potential for direct skin contact before reuse. If inhaled excessively: Remove the person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, and continue rinsing.

Storage
Store in a well-ventilated place. Keep the container tightly closed.

Section 2. Hazards Identification

Disposal Dispose of contents and container in accordance with all local, regional, national, and international regulations.

Hazards not otherwise classified None known

Section 3. Composition/Information on Ingredients

Substance/Mixture Sand

Other means of identification Not available

Ingredient name	%	CAS Number
Silicon Dioxide	> 99	7631-86-9
Crystalline Silica (Quartz)	>1	14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
Occupational exposure limits, if available , are listed in Section 8.

Section 4. First Aid Measures

Inhalation If excessive inhalation occurs, remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact 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 eyelids open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Remove contact lens, if present and easy to do, and continue rinsing. Beyond flushing, do not attempt to remove material from eye(s). 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 a potential for direct skin contact. Contract 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. Never attempt to make an unconscious person drink or vomit. Get medical attention.

Signs and Symptoms of Exposure There are generally no signs or symptoms of exposure to respirable crystalline silica. 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 which can occur with exposure to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as 6 months, are the same as those associated with chronic silicosis; additionally, weight loss and fever may also occur.
Direct skin and eye contact with dust may cause irritation by mechanical abrasion. Some components of the product are also known to cause irritation effects to skin, eyes and mucous membranes. Ingestions of large amounts may cause gastrointestinal irritation and blockage. 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. Repeated excessive exposure may cause pneumoconiosis, such as silicosis and other respiratory effects.

Section 5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media	Not flammable, use extinguishing media compatible with surrounding fire.
Unsuitable extinguishing media	Contact with powerful oxidizing agents may cause fire and/or explosion.
Specific hazards arising from the chemical	None known.
Hazardous thermal decomposition products	None known
Specific extinguishing methods	Cool containers/tanks with water spray.
Special protective equipment for fire fighters	Wear an approved positive pressure self-contained breathing apparatus (SCBA) apparatus in addition to standard firefighting gear for fires indoors or in confined spaces.

Section 6. Accidental Release Measures

Personal precautions, protective measures, and emergency procedures	Wear appropriate personal protective equipment as specified in section 8. Ensure appropriate respirators are worn during and following clean up or whenever airborne dust is present to ensure worker exposures remain below occupational exposure limits (OEL's- Refer to section 8). Follow respiratory protection selection guidelines as described in Section 8 of this document.
Enviromental precautions	Avoid discharge of fine particulate matter into drains or water courses.
Methods and materials for containment and cleaning up	Persons involved in cleaning should first follow the precautions defined in Section 7 of the SDS. Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust that may pose an inhalation hazard. Do not dry sweep spilled material. Collect 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. Place the silica- containing dust in a covered container appropriate for disposal.

Section 7. Handling and Storage

Precautions for safe handling

Advice on safe handling	Follow the protective controls set forth in section 8 of this SDS when handling this product. Dust containing respirable crystalline silica and other components that may be irritants may be generated during handling and storage. Use good housekeeping procedures to prevent the accumulation of dust in the workplace. Do not breathe dust. Avoid contact with skin and eyes. DO not store near food and beverages or smoking materials. 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 OEL's. If the airborne levels are above the appropriate OEL's, use respiratory protection during the establishment of engineering controls. Refer to section 8 – Exposure Controls/ Personal Protection for additional information.

Section 8. Exposure Controls/Personal Protection

Control parameters

Occupational exposure limits

Ingredient name	CAS #	Exposure limits
Silicon Dioxide	7631-86-9	**NIOSH** TWA: 6 mg/m^3 **OSHA PEL** TWA: 0.05 mg/m^3 (respirable)
Crystalline Silica, Quartz	14808-60-7	**NIOSH** TWA: 0.05 mg/m^3 **OSHA PEL** TWA: 50 μg/m^3

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

Respiratory protection For operations where the occupational exposure limits are exceeded respiratory protection approved for respirable particulates is required. Consult with OSHA, NIOSH recommendations and other applicable regulatory agencies to determine the appropriate respiratory protection to be worn during use of this product and use only such recommended respiratory protection equipment. Avoid breathing dust produced during the use and handling of this product. 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, or other trained professional. Ensure appropriate respirators are worn during and following the task, including clean up or whenever airborne dust is present, to ensure worker exposure remains below OEL's.

Hand protection Protective gloves recommended for situations where abrasion from sand may occur.

Eye/face protection Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditios are present or are anticipated. There is a potential for severe eye irritation if exposed to excessive concentration of dust for those wearing contact lenses.

Other Protective Equipment/Clothing: As appropriate for the work environment. Dusty clothing should be laundered before reuse.

General Hygiene Considerations There are no known hazards associated with this material when used as recommended. Following the guidelines in this SDS is recognized as good industrial hygiene practices. Avoid breathing dust. Avoid skin and eye contact. Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.

Section 9. Physical and Chemical Properties

Appearance

Physical state	Solid- Granular
Color	Light brown
Odor	None
Melting point	Not applicable
Boiling point	Not applicable
Flash Point	Not applicable
Relative density	2.65
Solubility-water	Not soluble
Particle size	Grit mesh size range 8-16

Section 10. Stability and Reactivity

Reactivity	This product is not reactive under normal conditions of storage and use.
Chemical Stability	Stable
Possibility of Hazardous Reactions	None known.
Incompatible Materials	Contact with strong oxidizing agents, such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, hydrogen fluoride, oxygen difluoride, hydrogen peroxide, acetylene and ammonia may cause fire and/or explosion.
Hazardous Decomposition Products	Silica will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.
Hazardous Polymerization	Not known to polymerize.

Section 11. Toxicological Information

Primary Routes of Exposure	Inhalation, skin and ingestion
Eye Contact	Direct contact with dust may cause irritation by mechanical abrasion. Conjunctivitis may occur.
Skin Contact	Direct contact with dust may cause irritation by mechanical abrasion. Conjunctivitis may occur. Some components of material are also known to cause irritation to skin and mucous membranes.
Skin Absorption	Not expected to be a significant route of exposure.
Ingestion	Small amounts (Tbsp) 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 membraned and respiratory tract by mechanical abrasion. Coughing, sneezing, chest pain, shortness of breath, inflammation of mucous membranes 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.

Silicon Dioxide: It is comprised 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.

Section 11. Toxicological Information

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 (cor pumonale) secondary to the 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 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).

Section 11. Toxicological Information

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 dusts 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, 4676 Columbia Parkway, Cincinnati, OH 45226, or at https://www.cdc.gov/niosh/docs/2002-129/default.html. 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.

Section 12. Ecological Information

No data available for this product.

Section 13. Disposal Considerations

Disposal methods Collect and reuse clean materials. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

Section 14. Transport Information

	Proper shipping name	UN/NA Number	Class	PG	Additional information
DOT	Not regulated	‘-	-	-	-
TDG	Not regulated	-	-	-	-
IMDG	Not regulated	-	-	-	-
IATA	Not regulated	-	-	-	-

Section 15. Regulatory Information

TSCA	All components are listed on the TSCA registry.
State Regulations	
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
California Prop 65	**WARNING:** This product can expose you to chemicals including *Crystalline Silica and trace metals*, which is(are) known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov.

Section 16. Other Information

Date of revision	1/8/2025
Date of previous issue	10/26/2020
Revisions	Update street address, GHS Hazard statements, & precautionary statements. Update information regarding spill response and toxicology information.
Version	2

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