

**VAST MOUNTAIN DEVELOPMENT COMPANY INC.  
SAFETY DATA SHEET  
HARVEST GOLD ORGANICS**

**1. IDENTIFICATION**

**Product identifier:** Soil conditioner derived from mine tailings

**Product Name/Trade Names:**

Trade Name: Harvest Gold Silica Premium Soil Conditioner

**Chemical Name or Synonym:**

Natural Silica Mineral, SiO<sub>2</sub>

**Recommended use of the chemical and restrictions on use:** Soil improvement for indoor and outdoor plants

**Manufacturer:**

Vast Mountain  
Development Company Inc.  
3839 Briargrove Lane  
Dallas TX 75287  
U.S.A.

**Phone:** 214-773-2468

**Emergency Phone:** 214-549-1335

**2. HAZARD(S) IDENTIFICATION**

**Classification:**

<b>Physical</b>	<b>Health</b>
Not Hazardous	Harvest Gold Silica contains less than 1% respirable crystalline silica and is packaged with 7-10% water to reduce the potential for airborne dispersion of fine particles. Tridymite and cristobalite have been analyzed for but not detected in Harvest Gold Silica. The potential for exposure to respirable crystalline silica when using this product is low, but it should be used with adult supervision and in accordance with guidelines in this SDS.

**DANGER**

Use with caution to prevent generation of dust. Inhalation of respirable crystalline silica may cause cancer by inhalation. Respirable crystalline silica causes damage to lungs through prolonged or repeated exposure by inhalation.

**Response:**

If exposed or concerned: Get medical advice.

**Disposal:**

Dispose of contents/containers in accordance with local regulation.

**Prevention**

Read package instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust.  
Do not eat, drink or smoke when using this product.  
Avoid contact with eyes. Wear protective gloves and safety glasses or goggles.  
In case of inadequate ventilation wear respiratory protection.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Percent
Crystalline Silica (quartz)	14808-60-77	65%
Inert feldspar, iron oxides, magnetite, mica	NA	25-28%
Water	NA	7-10%

### 4. FIRST-AID MEASURES

**Inhalation:** First aid is not generally required. If irritation develops from breathing dust, move the person from the overexposure and seek medical attention if needed.

**Skin contact:** First aid is not required.

**Eye contact:** Wash immediately with plenty of water. Do not rub eyes. If irritation persists, seek medical attention.

**Ingestion:** First aid is not required.

**Most important symptoms/effects, acute and delayed:** Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath. Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer.

**Indication of immediate medical attention and special treatment, if necessary:** Immediate medical attention is not required.

### 5. FIRE-FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:** Not flammable; Use extinguishing media appropriate for surrounding fire.

**Specific hazards arising from the chemical:** Product is not flammable, combustible or explosive.

**Special protective equipment and precautions for fire-fighters:** None required.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up. Apply a fine mist to reduce dust potential.

**Environmental precautions:** No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations.

**Methods and materials for containment and cleaning up:** Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use fine mist water spraying/flushing or ventilated/HEPA filtered vacuum cleaning system. Dispose in closed containers.

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Avoid generating dust and do not breathe dust. Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Use adequate exhaust ventilation and dust collection. Maintain and test ventilation and dust collection equipment. Use all available work practices to control dust exposures, such as water sprays. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment

A respirator approved for silica-containing dust is recommended when working with this product during commercial applications or over extended periods. See Section 8, for further information on respirators. Maintain, clean, and fit test respirators in accordance with applicable standards. Wash or vacuum clothing that has become dusty.

If used in occupational or commercial settings, participate in training, exposure monitoring, and health surveillance programs to monitor any potential adverse health effects that may be caused by breathing respirable crystalline silica. The OSHA Respirable Crystalline Silica Standards; 29CFR1910.1053, 1915.1053 and 1926.1053, the OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.

**Conditions for safe storage, including any incompatibilities:** If used in occupational or commercial settings, use dust collection to trap dust produced during loading and unloading. Keep containers closed and store bags to avoid accidental tearing, breaking, or bursting.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure guidelines:

New OSHA PEL from 2016 Respirable Crystalline Silica Standard – see Effective Dates below.

Component	OSHA PEL	ACGIH TLV	NIOSH REL
Crystalline silica (quartz, cristobalite, and tridymite)	0.05 mg/m <sup>3</sup> time-weighted average(TWA) over 8-hour shift(respirable dust)	0.025 mg/m <sup>3</sup> TWA (respirable dust)	0.05 mg/m <sup>3</sup> TWA (respirable dust)

Effective Dates: Construction 29CFR 1926.1153 Effective June 23, 2017  
General Industry and Maritime 29CFR 1910.1053 / 1915.1053 Effective June 23, 2018  
Oil and Gas including Hydraulic Fracturing 29CFR 1910.1053 Effective June 23, 2018

**Appropriate engineering controls:** Use adequate general or local exhaust ventilation to maintain concentrations in the workplace below the applicable exposure limits listed above.

**Respiratory protection:** If it is not possible to reduce airborne exposure levels to below the OSHA

The presented information and recommendations are based upon data believed to be up-to-date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

PEL or other applicable limit with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the OSHA Respirator Standard 29CFR1910.134(d). **Assigned protection factor (APF)** means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by the Standard. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m<sup>3</sup>, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m<sup>3</sup>. In addition a cartridge change-out schedule must be developed based on the concentrations in the workplace.

1. -- Assigned Protection Factors<sup>5</sup>

Type of respirator <sup>1, 2</sup>	Quarter mask	Half mask	Full face	Helmet/ hood	Loose-fitting face piece
1. Air-Purifying Respirator	5	<sup>3</sup> 10	50	.....	.....
2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	<sup>4</sup> 25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	<sup>4</sup> 25/1,000	.
• Pressure-demand or other positive- pressure mode	.....	50	1,000	.....	25
					.....
					.
4. Self-Contained Breathing Apparatus (SCBA)					
• Demand mode	.....	10	50	50	.....
• Pressure-demand or other positive- pressure mode (e.g., open/closed circuit)	.....	.....	10,000	10,000	.....
			0		

**Notes:**

<sup>1</sup>Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

<sup>2</sup>The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

<sup>3</sup>This APF category includes filtering face pieces, and half masks with elastomeric face pieces.

<sup>4</sup>The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting face piece respirators and receive an APF of 25.

<sup>5</sup>These APFs do not apply to respirators used solely for escape. For escape respirators used in

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance- specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

**Skin protection:** Maintain good industrial hygiene. Protection recommended for workers suffering from dermatitis or sensitive skin.

**Eye protection:** Safety glasses with side shields or goggles recommended.

**Other:** None known.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (physical state, color, etc.):** White or tan particles with the texture of fine sand with variable darker grains: granular.

**Odor:** None.

<b>Odor threshold:</b> Not determined	<b>pH:</b> 6-8
<b>Melting point/freezing point:</b> 3110°F/1710°C	<b>Boiling point/range:</b> 4046°F/2230°C
<b>Flash point:</b> Not applicable	<b>Evaporation rate:</b> Not applicable
<b>Flammable limits: LEL:</b> Not applicable	<b>UEL:</b> Not applicable
<b>Vapor pressure:</b> Not applicable	<b>Vapor density:</b> Not applicable
<b>Relative density:</b> 2.65	<b>Solubility:</b> Insoluble in water
<b>Partition coefficient: n-octanol/water:</b> Not applicable	<b>Auto-ignition temperature:</b> Not determined
<b>Decomposition temperature:</b> Not determined	<b>Viscosity:</b> Not applicable
<b>Flammability (solid, gas):</b> Not applicable	

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive under normal conditions of use.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

**Conditions to avoid:** Avoid generation of dust in handling and use.

**Incompatible materials:** Powerful oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride and hydrofluoric acid.

**Hazardous decomposition products:** Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects of exposure:**

**Inhalation:** Inhalation of respirable crystalline silica (dust) may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

**Ingestion:** Ingestion in an unlikely route of exposure. If dust is swallowed, it may irritate the mouth and throat.

**Skin contact:** No adverse effects are expected.

**Eye contact:** Particulates may cause abrasive injury.

**Chronic effects:** Prolonged inhalation of respirable crystalline silica may cause lung disease, silicosis, lung cancer and other effects as indicated below.

**The method of exposure that can lead to the adverse health effects described below is inhalation.**

## A. SILICOSIS

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 (10 to 20 or more) of prolonged repeated inhalation of relatively low levels of 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 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. Complicated silicosis or PMF symptoms, if present, are shortness of breath and cough. 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 secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier, and progression is more rapid.

Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness and weight loss. Acute silicosis is fatal.

## B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that "crystalline silica in the form of quartz or cristobalite dust is *carcinogenic to humans (Group 1)*". For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts" (2011). NTP classifies "Silica, Crystalline (respirable size)" as Known to be a human carcinogen.

## C. AUTOIMMUNE DISEASES

Several studies have reported excess cases of several autoimmune disorders -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers.

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

#### D. TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.

#### E. KIDNEY DISEASE

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica- exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

#### F. NON-MALIGNANT RESPIRATORY DISEASES

The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

##### Sources of information:

The ***NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica*** published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The *NIOSH Hazard Review* is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, [www.cdc.gov/niosh/topics/silica](http://www.cdc.gov/niosh/topics/silica), then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".

For a more recent review of the health effects of respirable crystalline silica, the reader may consult *Fishman's Pulmonary Diseases and Disorders*, Fourth Edition, Chapter 57. "Coal Workers' Lung Diseases and Silicosis".

The US Occupational Safety and Health Administration (OSHA) published a summary of respirable crystalline silica health effects in connection with OSHA's Proposed Rule regarding occupational exposure to respirable crystalline silica. The summary was published in the September 12, 2013 Federal Register, which can be found at [www.federalregister.gov/articles/2013/09/12/2013-20997/occupational-exposure-to-respirable-crystalline-silica](http://www.federalregister.gov/articles/2013/09/12/2013-20997/occupational-exposure-to-respirable-crystalline-silica).

##### **Numerical measures of toxicity:**

Crystalline Silica (quartz): LD50 oral rat >22,500 mg/kg

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Crystalline silica (quartz) is not known to be ecotoxic.

**Persistence and degradability:** Silica is not degradable.

**Bioaccumulative potential:** Silica is not bioaccumulative.

**Mobility in soil:** Silica is not mobile in soil.

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

**Other adverse effects:** No data available.

### 13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in full compliance with national regulations.

### 14. TRANSPORT INFORMATION

**UN number:** None

**UN proper shipping name:** Not regulated

**Transport hazard classes:** None

**Packing group:** None

**Environmental hazards:** None

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not determined

**Special precautions:** None known.

### 15. REGULATORY INFORMATION

#### **UNITED STATES (FEDERAL AND STATE)**

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

**RCRA:** This product 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.

**Emergency Planning and Community Right to Know Act (SARA Title III):** This product contains the following chemicals subject to SARA 302 or SARA 313 reporting: None above the de minimus concentrations.

**Clean Air Act:** Crystalline silica (quartz) mined and processed by U.S. Silica Company is 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).

**California Proposition 65:** Crystalline silica (airborne particles of respirable size) is classified as a substance known to the State of California to be a carcinogen.

**California Inhalation Reference Exposure Level (REL):** California established a chronic non-cancer effect REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no non-cancer health effects are anticipated in individuals indefinitely

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.



exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

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

Texas Commission on Environmental Quality: The Texas CEQ has established chronic and acute Reference Values and short term and long-term Effects Screening Levels for crystalline silica (quartz). The information can be accessed through [www.tceq.texas.gov](http://www.tceq.texas.gov).

## **CANADA**

Domestic Substances List: Products, as naturally occurring substances, are on the Canadian DSL.

WHMIS Classification: D2A

## **OTHER NATIONAL INVENTORIES**

Australian Inventory of Chemical Substances (AICS): All of the components of this product are listed on the AICS inventory or exempt from notification requirements.

China: Silica is listed on the IECSC inventory or exempt from notification requirements.

Japan Ministry of International Trade and Industry (MITI): All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law Registry Number 1-548.

Korea Existing Chemicals Inventory (KECI) (set up under the Toxic Chemical Control Law): Listed on the ECL with registry number 9212-5667.

New Zealand: Silica is listed on the HSNO inventory or exempt from notification requirements.

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed for PICCS.

Taiwan: Silica is listed on the CSNN inventory or exempt from notification requirements.

## **16. OTHER INFORMATION**

**Date of preparation/revision**: April 15, 2017

Hazardous Material Information System (HMIS):

Health \*

Flammability 0

Physical Hazard 0

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.

Protective  
Equipment E

\* For further information on health effects, see Sections 2, 8 and 11 of this MSDS.

National Fire Protection Association

(NFPA): Health 0

Flammability 0

Instability 0

Web Sites with Information about Effects of Crystalline Silica Exposure:

The OSHA web site contains information on the standard related to respirable crystalline silica at <https://www.osha.gov/silica/index.html>.

NIOSH maintains a site with information about crystalline silica and its potential health effects at <http://www.cdc.gov/niosh/topics/silica>.

The IARC Monograph that includes crystalline silica, can be accessed in PDF form at the IARC web site, <http://monographs.iarc.fr/ENG/Monographs/PDFs/index.php>.

---

The presented information and recommendations are based upon data believed to be up to- date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information presented. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our products. Customers and users must comply with all applicable health and safety laws, regulations, and orders. They are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures.