

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance/preparation	Blank
Use of the substance/preparation	Sample.
Version No.	02
CAS No.	7631-86-9
Product code	Part #: 930001
Manufacturer	
Supplier	Evident Scientific
Address	48 Woerd Ave. Waltham, MA 02453, USA
Telephone	+1 781-419-3900
Emergency telephone number	CHEMTREC US: 1-800-424-9300, International: +1 703-527-3887

## 2. HAZARDS IDENTIFICATION

Classification	Carc. Cat. 1;R45, Xn;R48/20
Physical hazards	Not classified as a physical hazard.
Health hazards	May cause cancer. Also harmful: danger of serious damage to health by prolonged exposure through inhalation.
Environmental hazards	Not classified as an environmental hazard.
Specific hazards	Harmful: danger of serious damage to health by prolonged exposure through inhalation. May cause cancer. Danger of serious damage to health by prolonged exposure. Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
Main symptoms	Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Prolonged exposure may cause chronic effects.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Percent	EC-No.	Classification
Silicon dioxide	7631-86-9	100	231-545-4	Carc. Cat. 1;R45, Xn;R48/20

Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
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## 4. FIRST-AID MEASURES

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
General advice	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Extinguishing media which must not be used for safety reasons	None known.
Unusual fire & explosion hazards	None known.
Specific hazards	During fire, gases hazardous to health may be formed.
Special protective equipment for fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**

Use water spray to cool unopened containers.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**6. ACCIDENTAL RELEASE MEASURES****Containment procedures**

Prevent entry into waterways, sewer, basements or confined areas.

**Personal precautions**

Ensure adequate ventilation. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. For personal protection, see section 8.

**Environmental precautions**

Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

**Methods for cleaning up**

Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Collect in containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. For waste disposal, see section 13 of the SDS.

**7. HANDLING AND STORAGE****Handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. Minimise dust generation and accumulation. Do not breathe dust. Provide appropriate exhaust ventilation at places where dust is formed. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Storage**

Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Occupational exposure limits****US. ACGIH Threshold Limit Values**

Material	Type	Value	Form
Silicon dioxide (CAS 7631-86-9)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.

**Egypt. OELs. Threshold limits of air pollutants in the workplace (Decree No. 388, Annex 8)**

Material	Type	Value	Form
Silicon dioxide (CAS 7631-86-9)	TWA	0.15 mg/m <sup>3</sup>	Total dust.
		0.049 mg/m <sup>3</sup>	Inhalable dust.
		1.36 mp/ft <sup>3</sup>	

**Kenya. OEL-CL. Control Limits for Hazardous Chemical Substances (The Factories and Other Places of Work Rules in 2007 of the Factories and Other Places of Work Act (CAP. 514))**

Material	Type	Value	Form
Silicon dioxide (CAS 7631-86-9)	TWA	0.4 mg/m <sup>3</sup>	Respirable dust.

**South Africa. Control Limits. Regulations for Hazardous Chemical Substances, Table 1**

Material	Type	Value	Form
Silicon dioxide (CAS 7631-86-9)	TWA	0.4 mg/m <sup>3</sup>	Respirable dust.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures****Additional exposure data**

Not available.

**Engineering measures**

Should be handled in closed systems, if possible. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn.

**Personal protective equipment****Respiratory protection**

Wear respirator with dust filter.

**Hand protection**

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

**Eye protection**

Risk of contact: Wear safety glasses with side shields (or goggles).

<b>Skin and body protection</b>	No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
<b>Environmental exposure controls</b>	Environmental manager must be informed of all major releases.
<b>Hygiene measures</b>	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Colour</b>	White.
<b>Odour</b>	Odourless.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	1710 °C (3110 °F)
<b>Boiling point, initial boiling point, and boiling range</b>	2230 °C (4046 °F)
<b>Flash point</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Combustion characteristics (solid, gas)</b>	Non flammable.
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Density</b>	2.20 - 2.60 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not applicable.
<b>Other data</b>	
<b>Molecular formula</b>	O <sub>2</sub> Si

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable at normal conditions.
<b>Conditions to avoid</b>	Avoid dust formation. Contact with incompatible materials.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.
<b>Stability</b>	Material is stable under normal conditions.
<b>Materials to avoid</b>	Strong oxidising agents. Hydrofluoric acid. Magnesium.
<b>Hazardous polymerisation</b>	No dangerous reaction known under conditions of normal use.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute toxicity</b>	Not expected to be acutely toxic.
<b>Routes of exposure</b>	Inhalation. Skin contact. Eye contact.
<b>Toxicological information</b>	Occupational exposure to the substance or mixture may cause adverse effects.
<b>Chronic toxicity</b>	Chronic lung disease (silicosis) and/or lung cancer may result from prolonged/repeated breathing of the dust of this material.
<b>Sensitisation</b>	This product is not expected to cause skin sensitisation.
<b>Carcinogenicity</b>	May cause cancer.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Silicon dioxide (CAS 7631-86-9) 1 Carcinogenic to humans.

<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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<b>Reproductivity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Epidemiology</b>	No epidemiological data is available for this product.
<b>Local effects</b>	Exposure to powder or dusts may be irritating to eyes, nose and throat.
<b>Symptoms and target organs</b>	Dusts may irritate the respiratory tract, skin and eyes. Coughing. Shortness of breath. Discomfort in the chest. Prolonged exposure may cause chronic effects.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Not expected to be harmful to aquatic organisms.
<b>Persistence and degradability</b>	Not applicable.
<b>Bioaccumulation</b>	The product is not bioaccumulating.
<b>Aquatic toxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Mobility</b>	The product is insoluble in water.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Dispose in accordance with all applicable regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

## 15. REGULATORY INFORMATION

<b>Labelling</b>	
<b>Contains</b>	Silicon dioxide
<b>EC number</b>	231-545-4
<b>Symbol(s)</b>	



Toxic

<b>R-phrases(s)</b>	R45 May cause cancer. R48/20 Also harmful: danger of serious damage to health by prolonged exposure through inhalation.
<b>S-phrases(s)</b>	S29 Do not empty into drains. S53 Avoid exposure - obtain special instructions before use. S60 This material and its container must be disposed of as hazardous waste.
<b>Regulatory information</b>	Pregnant women should not work with the product, if there is the least risk of exposure.

## 16. OTHER INFORMATION

<b>Wording of the R-phrases in sections 2 and 3</b>	R45 May cause cancer. R48/20 Also harmful: danger of serious damage to health by prolonged exposure through inhalation.
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**International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

<b>Recommended use</b>	Test sample.
<b>Bibliography</b>	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens
<b>Disclaimer</b>	Evident Scientific cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
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