

# Silicon Carbide

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
 Regulations Revision date: 02/25/25 Supersedes: 03/25/15

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
 Product name : Silicon Carbide  
 Other means of identification : SiC

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Refractory and abrasive products

#### 1.3. Details of the supplier of the safety data sheet

FX Minerals  
 257 Kennedy Park Marina Rd  
 Newell, WV 26050  
 (304) 387-1160

[lab@fxminerals.com](mailto:lab@fxminerals.com)

#### 1.4. Emergency telephone number

Emergency number : (304) 387-1160  
 After 5PM weekdays, weekends and holidays: (814) 360-9040

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Carc. 1A H350  
 Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger  
 Hazard statements (GHS-US) : H350 - May cause cancer (Inhalation)  
 Precautionary statements (GHS-US) : P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P280 - Wear appropriate PPE  
 P308 + P313 - If exposed or concerned: Get medical advice/attention  
 P405 - Store locked up  
 P501 - Dispose of contents/container to comply with local/regional/national/international regulations

#### 2.3. Other hazards

Hazard determining Component : Quartz (SiO<sub>2</sub>):  
 Other hazards not contributing to the classification : Other constituents in this product are considered nuisance particles or dust. Exposure to dusts or powders may cause mechanical irritation of the respiratory system, eyes, and skin.

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

| Name                       | Product identifier  | %      | GHS-US classification              |
|----------------------------|---------------------|--------|------------------------------------|
| Silicon Carbide            | (CAS No) 409-21-2   | 88-98% | Community workplace exposure limit |
| Quartz (SiO <sub>2</sub> ) | (CAS No) 14808-60-7 | < 5%   | Carc. 1A, H350                     |
| Silicon                    | (CAS No.) 231-130-8 | <2.5%  | Flam Sol 2, H228                   |

Full text of H-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- First-aid measures after inhalation : Immediate effects are not anticipated. If large amounts of dusts are inhaled, remove to fresh air. If breathing problems occur, a certified professional should administer oxygen or CPR if indicated. Seek immediate medical attention.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : There are potential chronic health effects to consider.
- Symptoms/injuries after inhalation : May cause cancer by inhalation. Long-term dust exposure may aggravate pre-existing respiratory disease. Persons who develop silicosis have greatly increased risks of developing tuberculosis and workers who are exposed to crystalline silica and smoke have increased risks of lung damage.
- Symptoms/injuries after skin contact : Direct contact may cause irritation, rash or dry skin. Rubbing may intensify symptoms and create abrasions.
- Symptoms/injuries after eye contact : Particulate matter may scratch the cornea or cause other mechanical injury to the eye. Scratching or physical damage to the eyes can cause irritation, redness, pain, tear formation, blurred vision, and light sensitivity.
- Symptoms/injuries after ingestion : Practically non-toxic. Ingestion is not anticipated under normal working conditions.
- Chronic symptoms : Repeated inhalation of respirable crystalline silica over a number of years can cause lung disease (silicosis) and increase the risks of developing respiratory cancer. Silicosis is a progressive fibrotic pneumoconiosis which greatly decreases the ability of the lungs to provide oxygen (decreased pulmonary capacity). The disease may progress even if the worker is removed from exposure. The extent and severity of lung injury depends on a variety of factors including particle size, percentage of silica, natural resistance, dust concentration and length of exposure. Symptoms of silicosis include phlegm, coughing, and characteristic x-rays.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Any. Use media appropriate for surrounding fire.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable.
- Reactivity : Not reactive under normal use and conditions.

#### 5.3. Advice for firefighters

- Protection during firefighting : Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ensure adequate air ventilation.

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Stay upwind. Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Do not touch or walk through spilled material.

Methods for cleaning up : Completely remove dusts to prevent recirculation of crystalline silica. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent dust recirculation. For large spills, use a fine spray or mist to control dust creation and carefully scoop or shovel into clean, dry container for later reuse or disposal. DO NOT USE DRY SWEEPING OR COMPRESSED AIR TO CLEAN SPILLS.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Combustion may produce carbon monoxide and other harmful substances.

Precautions for safe handling : Avoid dust inhalation and promulgation. DO NOT use compressed air or dry sweeping to remove dust from work area. Dusts should be removed using an appropriately equipped vacuum. If an appropriate vacuum is unavailable, only wet-clean-up methods should be used (i.e. wet sweeping, misting, etc.). Moisture should be added as necessary to reduce exposure to airborne respirable dust.

Hygiene measures : Practice good housekeeping. Wash thoroughly after handling. Change contaminated clothing. Do not reuse until laundered. Do not take silica contaminated clothing home.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Containers should be stored in room at ambient temperature and pressure. Keep container closed when not in use.

#### 7.3. Specific end use(s)

Use of the substance/mixture : Refractory products

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| Silicon Carbide (409-21-2) |                                     |  |
|----------------------------|-------------------------------------|--|
| TLV USA                    | TLV USA (mg/m <sup>3</sup> )        | 10 mg/m <sup>3</sup> ; Fibrous dust 0.1 f/cc                                 |
| OSHA                       | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 15 mg/m <sup>3</sup> (Total dust); 5 mg/m <sup>3</sup> (Respirable Fraction) |

| Quartz (14808-60-7) |                                     |  |
|---------------------|-------------------------------------|--|
| TLV USA             | TLV USA (mg/m <sup>3</sup> )        | Long term value 0.025 mg/m <sup>3</sup> as respirable fraction |
| OSHA                | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | See Quartz Listing   |

| Silicon (7440-21-3) |                                     |   |
|---------------------|-------------------------------------|---|
| TLV USA             | TLV USA (mg/m <sup>3</sup> )        | TLV Withdrawn   |
| OSHA                | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | Long term value 15.5 mg/m <sup>3</sup> as respirable fraction |

#### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Enclosed processes used in combination with local exhaust ventilation as necessary to control air contaminants at or below acceptable exposure guidelines. Collection systems must be designed and maintained to prevent the accumulation and recirculation of respirable silica into the workplace.

Personal protective equipment : Avoid all unnecessary exposure.

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|                          |   |
|--------------------------|---|
| Hand protection          | : None required. Polymeric gloves are recommended to prevent irritation. Nitrile construction materials appear to offer the best protection against the ingredients of the product.   |
| Eye protection           | : Chemical goggles or safety glasses.   |
| Skin and body protection | : Under dusty conditions or when excessive skin contact is likely, wear coveralls or other suitable work clothing.  |
| Respiratory protection   | : Wear NIOSH/MSHA approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if exposure limits are exceeded. A respiratory program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. |

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

|  |   |
|--|---|
| Physical state                             | : Granulated powder   |
| Appearance                                 | : Powder.   |
| Color                                      | : Black/Grayish in Color  |
| Odor                                       | : No data available   |
| Odor threshold                             | : No data available   |
| pH   | : N/A   |
| Relative evaporation rate (butylacetate=1) | : No data available   |
| Melting point                              | : 3350 °C (6062 °F)   |
| Freezing point                             | : Not applicable  |
| Boiling point                              | : Not applicable  |
| Flash point                                | : Not applicable  |
| Auto-ignition temperature                  | : No data available   |
| Decomposition temperature                  | : No data available   |
| Flammability (solid, gas)                  | : No data available   |
| Vapour pressure                            | : No data available   |
| Relative vapour density at 20 °C           | : No data available   |
| Relative density                           | : 3.2 (water = 1)   |
| Solubility                                 | : Insoluble.<br>Water: Solubility in water of component(s) of the mixture : |
| Log Pow                                    | : No data available   |
| Log Kow                                    | : No data available   |
| Viscosity, kinematic                       | : No data available   |
| Viscosity, dynamic                         | : No data available   |
| Explosive properties                       | : No data available   |
| Oxidising properties                       | : No data available   |
| Explosive limits                           | : Not applicable  |

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Not reactive under normal use and conditions.

#### 10.2. Chemical stability

Stable at normal temperatures and pressure.

#### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid

Avoid generating dust.

#### 10.5. Incompatible materials

Strong alkalis. Strong oxidizing agents.

#### 10.6. Hazardous decomposition products

Possible trace

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

|  |   |
|--|---|
| Acute toxicity                                   | : Not classified  |
| Skin corrosion/irritation                        | : Not classified  |
| Serious eye damage/irritation                    | : Irritant to eyes  |
| Respiratory or skin sensitisation                | : Not classified  |
| Germ cell mutagenicity                           | : Not classified  |
| Carcinogenicity                                  | : May cause cancer (Inhalation).  |
| Reproductive toxicity                            | : Not classified  |
| Specific target organ toxicity (single exposure) | : Not classified  |
| Aspiration hazard                                | : Not classified  |
| Symptoms/injuries after inhalation               | : May cause cancer by inhalation. Long-term dust exposure may aggravate pre-existing respiratory disease. Persons who develop silicosis have greatly increased risks of developing tuberculosis and workers who are exposed to crystalline silica and smoke have increased risks of lung damage.  |
| Symptoms/injuries after skin contact             | : Direct contact may cause irritation, rash or dry skin. Rubbing may intensify symptoms and create abrasions.   |
| Symptoms/injuries after eye contact              | : Particulate matter may scratch the cornea or cause other mechanical injury to the eye. Scratching or physical damage to the eyes can cause irritation, redness, pain, tear formation, blurred vision, and light sensitivity.  |
| Symptoms/injuries after ingestion                | : Practically non-toxic. Ingestion is not anticipated under normal working conditions.  |
| Chronic symptoms                                 | : Repeated inhalation of respirable crystalline silica over a number of years can cause lung disease (silicosis) and increase the risks of developing respiratory cancer. Silicosis is a progressive fibrotic pneumoconiosis which greatly decreases the ability of the lungs to provide oxygen (decreased pulmonary capacity). The disease may progress even if the worker is removed from exposure. The extent and severity of lung injury depends on a variety of factors including particle size, percentage of silica, natural resistance, dust concentration and length of exposure. Symptoms of silicosis include phlegm, coughing, and characteristic x-rays. |

### SECTION 12: Ecological information

#### 12.1. Toxicity

Not expected to be toxic to aquatic organisms.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### Alpha Star®

|                           |  |
|---------------------------|--|
| Bioaccumulative potential | This product is not expected to bioaccumulate. |
|---------------------------|--|

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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose of as inert solid in landfill. Dispose of waste material according to Local, State and Federal environmental regulations. Never discharge directly into sewers or surface waters. Slurry may plug drains.

## SECTION 14: Transport information

In accordance with DOT - Not classified as dangerous for transport

Not regulated for transport; UN Number: None

Special precautions -None

### Additional information

Other information : No supplementary information available.

### ADR

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Silicon Carbide

All ingredients listed on the United States TSCA (Toxic Substances Control Act) inventory

No ingredients listed on SARA 313 (Specific Toxic Chemical Listings)

IARC: 14808-60-7 Quartz (SiO<sub>2</sub>) 1

TLV- ACGIH: 409-21-2 Silicon Carbide; 14808-60-7 Quartz (SiO<sub>2</sub>) A2

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

### 15.2.2. National regulations

### 15.3. US State regulations

## SECTION 16: Other information

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Data sources : ChemADVISOR, Inc.[<https://www.chemadvisor.com>]. GESTIS DNEL Database [[http://dnel-en.itrust.de/nxt/gateway.dll/dnel\\_en/000000.xml?f=templates\\$fn=default.htm\\$vid=dneleng:ddb eng\\$3.0/](http://dnel-en.itrust.de/nxt/gateway.dll/dnel_en/000000.xml?f=templates$fn=default.htm$vid=dneleng:ddb eng$3.0/)].

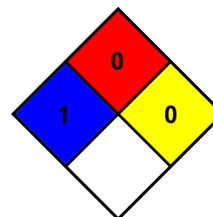
Full text of H-phrases::

|           |  |
|-----------|--|
| Carc. 1A  | Carcinogenicity, Category 1A                                   |
| STOT RE 1 | Specific target organ toxicity — Repeated exposure, Category 1 |
| H350      | May cause cancer   |
| H372      | Causes damage to organs through prolonged or repeated exposure |

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : E

SDS US (GHS HazCom 2012)

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