

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Silicon Carbide (Beta)**

Product Code •

CAS Number • 409-21-2

EC Number • 206-991-8

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

Relevant identified use(s) • High performance wear parts, abrasive filler

1.3 Details of the supplier of the safety data sheet

Manufacturer • Superior Graphite
10 S. Riverside Plaza
Chicago, IL 60606
United States

Telephone (General) • 312-559-2999

1.4 Emergency telephone number

Manufacturer • 312-559-2999

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Specific Target Organ Toxicity Repeated Exposure 2 - H373
DSD/DPD • Harmful (Xn)
R48/20

2.2 Label Elements

CLP

WARNING



Hazard statements • H373 - May cause damage to organs - Lungs through prolonged or repeated exposure via Inhalation

Precautionary statements

Prevention ● P260 - Do not breathe dust.

Response ● P314 - Get medical advice/attention if you feel unwell.

Storage/Disposal ● P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



Risk phrases ● R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

2.3 Other Hazards

CLP ● According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD ● This product is considered dangerous according to the European Directive 67/548/EEC.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 ● Specific Target Organ Toxicity Repeated Exposure 2 - H373

2.2 Label elements

OSHA HCS 2012

WARNING



Hazard statements ● May cause damage to organs - Lungs through prolonged or repeated exposure via Inhalation - H373

Precautionary statements

Prevention ● Do not breathe dust. - P260

Response ● Get medical advice/attention if you feel unwell. - P314

Storage/Disposal ● Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012 ● Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS ● Other Toxic Effects - D2B

2.2 Label elements

WHMIS



- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

Composition				
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive
Silicon carbide	CAS:409-21-2 EINECS:206-991-8	97% TO 100%	NDA	EU DSD/DPD: Self Classified - Xn, R48/20 EU CLP: Self Classified - STOT RE 2 (Lungs, inhalation) H373 OSHA HCS 2012: STOT RE 2 (Lungs, inhalation)

3.2 Mixtures

- Material does not meet the criteria of a mixture in accordance with Regulation (EC) No 1272/2008.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. If breathing is difficult get medical attention.

Skin

- IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If irritation develops and persists, get medical attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Get medical attention.

Ingestion

- Do NOT induce vomiting. Rinse mouth. Do not give anything by mouth to an unconscious person. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.

Unsuitable Extinguishing Media

- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • None known.

Hazardous Combustion Products • No data available

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Avoid contact with material that generates respirable dust unless proper PPE is used. Do not walk through spilled material.
- Emergency Procedures** • Use normal clean up procedures. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures** • Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling** • Use only with adequate ventilation. Use appropriate Personal Protective Equipment (PPE) Do not breathe dust. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

- Storage** • Ventilate enclosed areas. Keep container closed.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silicon carbide (SiC) (409-21-2)	TWAs	10 mg/m ³ TWA (nonfibrous, inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica); 3 mg/m ³ TWA (nonfibrous, respirable fraction, particulate matter containing no asbestos and <1% crystalline silica); 0.1 fiber/cm ³ TWA (as determined by the membrane filter method at 400-450X magnification (4-mm	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

	objective), using phase-contrast illumination., respirable fibers, including whiskers, length >5 µm, aspect ratio >=3:1)	
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8.2 Exposure controls

Engineering Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. All dust control equipment should contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Make sure that dust handling systems are designed to prevent escape of dust into the work area and that they do not leak.

Personal Protective Equipment

Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses). Eye wash station should be available.

Hands

- Wear protective gloves .

Skin/Body

- Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Black, gray, or green solid with no odor.
Color	Black, gray, or green.	Odor	No odor.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point	2700 C(4892 F) (sublimes)
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	3.2 Water=1	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Negligible	Vapor Density	1.3 Air=1
Evaporation Rate	Negligible		
Flammability			
Flash Point	Data lacking	UEL	Data lacking

LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Will not occur.

10.4 Conditions to avoid

- No data available

10.5 Incompatible materials

- Strong oxidizing agents, acids, and alkalis

10.6 Hazardous decomposition products

- Hazardous decomposition may occur on burning, releasing carbon dioxide and carbon monoxide, .

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Silicon Carbide (Beta) 409-21-2								
Test Type	Dosage	Route	Species	Duration	Results	Test Class	Target Organs	Comments
Multi-dose Toxicity	= 60 mg/m ³	Inhalation	Rat	6 Hour(s) for 13 Week(s) Intermittent	TCLo	NDA	NDA	NDA
GHS Properties				Classification				
Acute toxicity				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				
Aspiration Hazard				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				
Carcinogenicity				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				
Germ Cell Mutagenicity				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				
Skin corrosion/Irritation				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				
Skin sensitization				EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met				

STOT-RE	EU/CLP • Specific Target Organ Toxicity Repeated Exposure 2 OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 2
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Target Organs

- Lungs

Route(s) of entry/exposure

- Inhalation, Skin, Eye, Ingestion

Medical Conditions Aggravated by Exposure

- Disorders of the lungs.

Potential Health Effects**Inhalation****Acute (Immediate)**

- Exposure to dust may cause irritation.

Chronic (Delayed)

- Repeated and prolonged exposure to dust may cause lung effects including pneumoconiosis.

Skin**Acute (Immediate)**

- Exposure to dust may cause mechanical irritation.

Chronic (Delayed)

- No data available.

Eye**Acute (Immediate)**

- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed)

- No data available.

Ingestion**Acute (Immediate)**

- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)

- No data available.

Key to abbreviations

TC = Toxic Concentration

Section 12 - Ecological Information**12.1 Toxicity**

- Data lacking.

12.2 Persistence and degradability

- Data lacking.

12.3 Bioaccumulative potential

- Data lacking.

12.4 Mobility in Soil

- Data lacking.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Chronic

Inventory					
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS
Silicon carbide	409-21-2	Yes	No	Yes	No

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Silicon carbide

409-21-2

Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

- Silicon carbide

409-21-2

Not Listed

Environment**Canada - 2004 NPRI (National Pollutant Release Inventory)**

• Silicon carbide	409-21-2	Not Listed
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Canada - 2005 NPRI (National Pollutant Release Inventory)

• Silicon carbide	409-21-2	Not Listed
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Canada - CEPA - Greenhouse Gases Subject to Mandatory Reporting

• Silicon carbide	409-21-2	Not Listed
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Canada - CEPA - Priority Substances List

• Silicon carbide	409-21-2	Not Listed
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Canada - DWQ (Drinking Water Quality) - IMACs

• Silicon carbide	409-21-2	Not Listed
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Other**Canada - Accelerated Reduction/Elimination of Toxics (ARET)**

• Silicon carbide	409-21-2	Not Listed
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Canada New Brunswick**Environment****Canada - New Brunswick - Ozone Depleting Substances - Schedule A**

• Silicon carbide	409-21-2	Not Listed
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Canada - New Brunswick - Ozone Depleting Substances - Schedule B

• Silicon carbide	409-21-2	Not Listed
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Europe**Other****EU - Hazardous Substances Restricted or Prohibited in Electrical Equipment (2011/65/EU) (RoHS)**

• Silicon carbide	409-21-2	Not Listed
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Japan**Environment****Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances**

• Silicon carbide	409-21-2	Not Listed
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Japan - Pollutant Release Transfer Register (PRTR) - Class 2 Substances

• Silicon carbide	409-21-2	Not Listed
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Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

• Silicon carbide	409-21-2	Not Listed
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Other**Japan - Chemical Substance Control Law (CSCL) - Examined Existing Chemical Substances**

• Silicon carbide	409-21-2	Not Listed
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Japan - Chemical Substance Control Law (CSCL) - Monitoring Chemical Substances

• Silicon carbide	409-21-2	Not Listed
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Japan - Poisonous and Deleterious Substances - Substances Not Considered Deleterious

• Silicon carbide	409-21-2	Not Listed
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Japan - Poisonous and Deleterious Substances - Substances Not Considered Poisonous

• Silicon carbide	409-21-2	Not Listed
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United States**Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Silicon carbide	409-21-2	Not Listed
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U.S. - OSHA - Specifically Regulated Chemicals

• Silicon carbide	409-21-2	Not Listed
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Environment**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Silicon carbide	409-21-2	Not Listed
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U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Silicon carbide	409-21-2	Not Listed
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United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Silicon carbide	409-21-2	Not Listed
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U.S. - California - Proposition 65 - Developmental Toxicity

• Silicon carbide	409-21-2	Not Listed
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U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Silicon carbide	409-21-2	Not Listed
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U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Silicon carbide	409-21-2	Not Listed
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U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Silicon carbide	409-21-2	Not Listed
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U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Silicon carbide	409-21-2	Not Listed
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15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date • 03/May/2018
Preparation Date • 21/February/1991

Disclaimer/Statement of Liability

- The information contained herein is based on data available. However, no warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use thereof. Because the information contained herein may be applied under conditions beyond our control, we assume no responsibility for its use.

Key to abbreviations
NDA = No data available
