

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Material Name**

Poco Graphite Silicon Carbide Silicon Infiltrated

**Registration status**

This product is considered an article under REACH with no intended release of substances.

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

Semiconductor, Industrial and Optical Applications

**Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**

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E-mail: Product.stewardship@entegris.com

**1.4 Emergency telephone number**

+1-703-527-3887 (24 hours) - CHEMTREC – International

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [CLP]**

None needed according to classification criteria.

**2.2 Label elements****Labeling according to Regulation (EC) No. 1272/2008 [CLP]****Hazard symbols**

None needed according to classification criteria.

**Signal word**

None needed according to classification criteria.

**Hazard statements**

None needed according to classification criteria.

**Precautionary statements**

**Prevention**

None needed according to classification criteria.

**Response**

None needed according to classification criteria.

**Storage**

None needed according to classification criteria.

**Disposal**

**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards**

None known.

**SECTION 3: Composition / information on ingredients**

**3.2 MIXTURE**

CAS EC No Registration No	Component Name Synonyms	1272/2008 (CLP)	Percent
409-21-2 206-991-8 --	Silicon carbide	--	80-90
7440-21-3 231-130-8 --	Silicon	--	10-20

Full text of H- and EUH-statements: see section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

**Skin**

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

**Eyes**

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**Ingestion**

If swallowed, get medical attention.

**4.2 Most Important Symptoms/Effects**

**Acute**

No information on significant adverse effects.

**Delayed**

No information on significant adverse effects.

**4.3 Indication of Immediate Medical Attention and Special Treatment**

Treat symptomatically and supportively.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing agents appropriate for surrounding fire.

**Unsuitable Extinguishing Media**

None known.

**5.2 Special hazards arising from the substance or mixture**

Negligible fire hazard.

**Combustion**

Oxides of carbon, oxides of silicon

**5.3 Advice for firefighters**

Negligible fire hazard.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Dike for later disposal.

**Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear personal protective clothing and equipment.

**6.2 Environmental precautions**

Avoid release to the environment.

**6.3 Methods and Materials for Containment and Cleaning Up**

Keep unnecessary people away, isolate hazard area and deny entry. Eliminate ignition sources including sources of electrical, static or frictional sparks. Prevent entry into waterways, sewers, basements, or confined areas. Move containers away from spill to a safe area.

**6.4 Reference to other sections**

Safe handling: see section 7. Personal protection equipment (PPE): see section 8. Disposal: see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**7.2 Conditions for safe storage, including any incompatibilities**

None needed according to classification criteria.

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area.

Keep container tightly closed. Store in a cool, dry place. Keep separated from incompatible substances.

**Incompatible Materials**

Acids, alkalis, oxidizing materials

**7.3 Specific end use(s)**

Semiconductor, Industrial and Optical Applications

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Component Exposure Limits**

<b>Silicon carbide</b>	<b>409-21-2</b>
Bulgaria	5 mg/m3 TWA dust, inhalable fraction
Croatia	10 mg/m3 TWA [GVI] total dust, inhalable particles ; 4 mg/m3 TWA [GVI] respirable dust
Estonia	10 mg/m3 TWA (fibreless ) ; 5 mg/m3 TWA respirable dust
Germany (TRGS)	1.25 mg/m3 TWA AGW (fiber-free ) respirable fraction exposure factor 2 ; 10 mg/m3 TWA AGW (fiber-free ) inhalable fraction exposure factor 2
Italy:	10 mg/m3 TWA nonfibrous, inhalable fraction, particulate matter containing no Asbestos and <1% Crystalline silica ; 3 mg/m3 TWA nonfibrous, respirable fraction, particulate matter containing no Asbestos and <1% Crystalline silica ; 0.1 fiber/cm3 TWA fiber >5 µm in length, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination
Latvia	6 mg/m3 TWA
Poland	10 mg/m3 TWA [NDS] (the concentration of the respirable Crystalline silica fraction is determined simultaneously ) inhalable fraction
Romania	10 mg/m3 TWA dust, inhalable fraction
Slovak Republic	1.5 mg/m3 TWA respirable fraction ; 4 mg/m3 TWA inhalable fraction
Switzerland	3 mg/m3 TWA [MAK] (non fibrous ) ; 10 mg/m3 TWA [MAK] (non fibrous )
<b>Silicon</b>	<b>7440-21-3</b>
Croatia	10 mg/m3 TWA [GVI] total dust, inhalable particles ; 4 mg/m3 TWA [GVI] respirable dust
Estonia	10 mg/m3 TWA ; 5 mg/m3 TWA respirable dust
Switzerland	3 mg/m3 TWA [MAK]

**Component Biological Exposure Limits**

None of this product's components are on the list.

**Derived No Effect Levels (DNELs)**

No DNELs available.

**Predicted No Effect Concentrations (PNECs)**

No PNECs available.

**8.2 Exposure Controls**

**Engineering controls**

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

**Eye/face protection**

Wear safety glasses (EN 166).

**Skin Protection**

Wear appropriate chemical resistant clothing (EN ISO 6529).

**Respiratory Protection**

Consult with a health and safety professional for specific respirators appropriate for your use. Follow the respiratory regulations found in European Standard EN 149.

**Glove Recommendations**

Wear appropriate chemical resistant gloves (EN 374).

**Environmental exposure controls**

Avoid release to the environment.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	greenish-gray to silver solid	<b>Physical State</b>	solid
<b>Odor</b>	odorless	<b>Color</b>	greenish-gray to silver
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	Not applicable
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Not flammable
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	(Not flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	Not available
<b>Water Solubility</b>	(Insoluble )	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	2.5 - 3.5 g/cc
<b>Physical Form</b>	solid	<b>Molecular Weight</b>	Not available
<b>Oxidising properties</b>	Not available	<b>Explosive properties</b>	Not available

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

No reactivity hazard is expected.

**10.2 Chemical stability**

Stable at normal temperatures and pressure.

**10.3 Possibility of hazardous reactions**

Will not polymerize.

**10.4 Conditions to avoid**

Avoid contact with incompatible materials.

**10.5 Incompatible materials**

acids, alkalis, oxidizing materials

**10.6 Hazardous decomposition products****Thermal decomposition products**

Oxides of carbon, oxides of silicon

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**Silicon (7440-21-3)**

Oral LD50 Rat 3160 mg/kg

**Product Toxicity Data****Acute Toxicity Estimate**

Oral	>2000 mg/kg
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**Irritation/Corrosivity Data**

No data available.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Germ Cell Mutagenicity**

No data available for the mixture.

**Tumorigenic Data**

No data available for the mixture.

**Component Carcinogenicity**

None of this product's components are listed by IARC or DFG.

**Toxicity for reproduction**

No data available for the mixture.

**Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

No data available.

**SECTION 12: Ecological information****12.1 Toxicity****Component Analysis - Aquatic Toxicity**

No LOEI ecotoxicity data are available for this product's components.

**12.2 Persistence and degradability**

No data available for the mixture.

**12.3 Bioaccumulative potential**

No data available for the mixture.

**12.4 Mobility in soil**

No data available for the mixture.

**12.5 Results of PBT and vPvB assessment**

No components of this material are listed.

**12.6 Other adverse effects**

No data available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Waste codes/waste designations according to LoW. EWC-code: 16 02 16.

Since emptied containers retain material residue, follow safe handling/label warnings even after container is emptied.

Release to the environment or sewage system is prohibited.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 14: Transport information**

		ADR	RID	ICAO	IATA	ADN	IMDG
14.1	UN Number	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2	UN Proper Shipping Name	--	--	--	--	--	--
14.3	Transport Hazard Class(es)	--	--	--	--	--	--
14.4	Packing Group	--	--	--	--	--	--
14.5	Environmental Hazards	--	--	--	--	--	--
14.6	Special Precautions For User	--	--	--	--	--	--
14.7	Transport in Bulk According to Annex II of MARPOL and the IBC Code	--	--	--	--	--	--
14.8	Further information	--	--	--	--	--	--

**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
 REACH Candidate List of Substances of Very High Concern (SVHC) for Authorization (Article 59(1)) - Reg.  
 (EU) No. 1907/2006**

- No components of this material are listed.
- EU - REACH (1907/2006) - Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles**  
 No components of this material are listed.
- EU - Substances Depleting the Ozone layer (1005/2009)**  
 No components of this material are listed.
- EU - Persistent Organic Pollutants (850/2004)**  
 No components of this material are listed.
- EU - Export and Import Restrictions (689/2008) - Chemicals and Articles Subject to Export Ban**  
 No components of this material are listed.
- EU - Seveso III Directive (2012/18/EU) - Qualifying Quantities of Dangerous Substances**  
 No components of this material are listed.
- EU - Plant Protection Products (1107/2009/EC)**  
 No components of this material are listed.
- EU - Biocides (528/2012/EU)**  
 No components of this material are listed.
- EU - Water Framework Directive (2000/60/EC)**  
 No components of this material are listed.
- EU - Limitation of Emissions of Volatile Organic Compounds Due to the Use of Organic Solvents in Certain Activities and Installations (1999/13/EC)**  
 No components of this material are listed.
- EU - Detergent Regulation (648/2004/EC)**  
 No components of this material are listed.

**Germany Regulations**

**Germany Water Classification - Product**

hazard class 1 - slightly hazardous to water

\* Self-classification

**Germany Water Classification - Component**

**Silicon carbide (409-21-2)**

Reg. no 8277 , non-hazardous to water (free of fibres )

**Silicon (7440-21-3)**

Reg. no 8653 , non-hazardous to water

**Denmark Regulations**

No components of this material are listed.

**Component Analysis - Inventory**

**Silicon carbide (409-21-2)**

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

**Silicon (7440-21-3)**

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
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Yes	DSL	Yes	Yes	EIN	Yes	No	Yes	No
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KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

### 15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture.

## SECTION 16: Other information

### 16.1 Indication of changes

09/08/2021 - Update to Section(s) 3, 8, 11, 15.

### Preparation Date

18/04/2016

### Revision date

09/08/2021

### 16.2 Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL), KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne-Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada)

### 16.3 Key literature references and sources for data

Available upon request.

**16.4 Methods Used for Classification of Mixture According to Regulation (EC) No 1272/2008**

Available upon request.

**16.5 Relevant H- and EUH-phrases (Number and full text) and Notes**

None needed according to classification criteria

**16.6 Training advice**

Read the Safety Data Sheet before handling product.

**16.7 Further Information**

**Disclaimer:**

The information in this (Material) Safety Data Sheet ("M)SDS") is believed to be current and accurate as of the time of shipment of the product by Entegris. Entegris makes no warranties, express or implied, with respect to such information, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose. Entegris assumes no liability for any loss or injury which may result from the use of the information contained in this (M)SDS. The chemical, physical and toxicological properties of the Entegris product described in this (M)SDS have not been thoroughly investigated. Users are responsible for exercising due care in using the Entegris product, and for conducting their own investigation to determine whether the product is fit for their particular purpose and suitable for their method of use or application. It is the user's responsibility to ensure that its activities comply with all applicable laws and regulations. Entegris is a registered trademark of Entegris Inc. or an affiliated company. © 2015 Entegris Inc. or affiliated company. All rights reserved.