

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

Poco Graphite Powder

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

Entegris, Inc.

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USA

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**Recommended Use**

semiconductor manufacture

**Restrictions on Use**

None known.

**SECTION 2: Hazards identification****GHS Classification**

Specific Target Organ Toxicity - Repeated Exposure - Category 2 ( circulatory system , liver )

**GHS Label Elements****Symbol(s)****Signal word**

Warning

**Hazard statements****H373** May cause damage to organs through prolonged or repeated exposure. (circulatory system , liver )**Precautionary statements****Prevention****P260** Do not breathe dust.**Response****P314** Get medical advice/attention if you feel unwell.

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**Storage**

None needed according to classification criteria.

**Disposal****P501** Dispose of contents/container in accordance with local/regional/national/international regulations.**Other Hazards Which Do Not Result in Classification**

May form combustible dust concentrations in air.

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

CAS	Component Name	Percent	Japan ENCS Inventory #	Japan ISHL Inventory #
7782-42-5	Graphite	99-100	--	--

**SECTION 4: 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.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically and supportively.

**Symptoms: Immediate**

respiratory tract irritation, skin irritation, eye irritation

**Symptoms: Delayed**

circulatory system damage, liver damage

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

Use extinguishing agents appropriate for surrounding fire.

**Unsuitable Extinguishing Media**

None known.

**Specific hazards arising from the chemical**

Negligible fire hazard. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion 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.

**Combustion**

oxides of carbon

**Special Protective Equipment and Precautions for Firefighters**

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

**SECTION 6: Accidental release measures**

**Personal precautions**

Wear personal protective clothing and equipment. Minimize dust generation and accumulation. Keep unnecessary people away, isolate hazard area and deny entry. Provide adequate ventilation. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Non-sparking tools should be used when working with dust. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Environmental precautions**

Avoid release to the environment.

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

Keep unnecessary people away, isolate hazard area and deny entry. If sweeping of a contaminated area is necessary, use a dust suppressant agent. Collect spill using a vacuum cleaner with a HEPA filter or wet and scoop up dry spills. Avoid sweeping spilled dry material. Eliminate ignition sources including sources of electrical, static or frictional sparks. Keep out of water supplies and sewers. Prevent entry into waterways, sewers, basements, or confined areas. Avoid accumulation of airborne dusts. Small spills: Move containers away from spill to a safe area. Vacuum or sweep up material and place in a designated, labeled waste container. Large spills: If emergency personnel are unavailable vacuum or carefully scoop up spilled materials and place in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal.

**SECTION 7: Handling and storage**

**Handling Procedures**

Do not breathe dust. Wash hands thoroughly after handling. Avoid contact with eyes, skin and clothing. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions.

**Storage Procedures**

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. Keep separated from incompatible substances.

**Incompatibilities**

oxidizing materials

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

**Component Exposure Limits**

<b>Graphite</b>	<b>7782-42-5</b>
JSOH	2 mg/m3 OEL (Class 1 Dust ) total dust ; 0.5 mg/m3 OEL (Class 1 Dust ) respirable dust
ACGIH:	2 mg/m3 TWA (all forms except graphite fibers ) respirable particulate matter

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering controls**

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Provide local exhaust ventilation system. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Ensure compliance with applicable exposure limits.

**Eye protection**

Wear safety glasses.

**Body protection**

Wear appropriate chemical resistant clothing.

**Hand protection**

Wear appropriate chemical resistant gloves.

**Respiratory Protection**

SCBA with full face piece should be available in case of emergency.

**SECTION 9: Physical and chemical properties**

<b>Appearance</b>	solid (powder)	<b>Physical State</b>	solid
<b>Odor</b>	odorless	<b>Color</b>	Not available
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	Not available
<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>	Not available
<b>Physical Form</b>	Powder	<b>Molecular Formula</b>	C

Molecular Weight 12.01

<b>SECTION 10: Stability and reactivity</b>
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**Reactivity**

No reactivity hazard is expected.

**Stability**

Stable at normal temperatures and pressure.

**Possibility of hazardous reactions**

Will not polymerize.

**Conditions to avoid**

Avoid accumulation of airborne dusts. Avoid contact with incompatible materials.

**Incompatible materials**

oxidizing materials

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

oxides of carbon

<b>SECTION 11: Toxicological information</b>
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**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

**Acute Toxicity Estimate**

No data available.

**Immediate Effects**

respiratory tract irritation, skin irritation, eye irritation

**Delayed Effects**

circulatory system damage, liver damage

**Skin Corrosivity/Irritation Data**

skin irritation

**Serious Eye Damage/Eye Irritation**

eye irritation

**Respiratory Sensitization**

No data available

**Dermal Sensitization**

No data available

**Germ Cell Mutagenic Data**

No data available

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

**Reproductive Effects Data**

No data available

**Tumorigenic Data**

No data available

**Specific Target Organ Toxicity - Single Exposure**

No data available

**Specific Target Organ Toxicity - Repeated Exposure**

circulatory system, liver

**Aspiration hazard**

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No data available

**Medical Conditions Aggravated by Exposure**

No data available

**Additional Data**

No data available

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

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

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No information available for the product.

**SECTION 13: Disposal considerations****Waste residues**

Wastes should be treated and disposed by professionals certified by the governor of the local government, and hazards of the waste must be communicated sufficiently.

**Disposal of Contaminated Packaging**

Dispose containers in accordance with local regulations. When containers are empty, make sure all residues must be cleaned before disposal.

**SECTION 14: Transport information****International Regulations****IATA Information:**

UN#: Not regulated

**IMDG Information:**

UN#: Not regulated

**ICAO Information:**

UN#: Not regulated

**International Bulk Chemical Code**

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

**Domestic Regulations****Land transportation**

Not regulated

**Water transportation**

Not regulated

**Air transportation**

Not regulated

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### SECTION 15: Regulatory information

**Japan Regulations**

**Industrial Safety and Health Law**

Not regulated

**Japan Designated Chemical Substances (PRTR Law)**

Not regulated

**Poisonous and Deleterious Substances Control Law**

Not regulated

**Fire Service Law - Product**

Not applicable

**Civil Aeronautics Act**

Not regulated

**Ship Safety Act**

Not regulated

**Act on Port Regulations**

Not regulated

**Component Analysis - Inventory**

**Graphite (7782-42-5)**

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

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

### SECTION 16: Other information

**NFPA Ratings**

Health: 1 Fire: 0 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Preparation Date**

12/31/2018

**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 -

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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; 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; 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).

### **Other Information**

#### **Disclaimer:**

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