

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.

129 Concord Road
Building 2
Billerica, MA 01821
USA

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電話番号：03-5442-9718

緊急連絡先：03-4520-9637 (CHEMTREC)
電子メール：Product.stewardship@entegris.com

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

Graphite	7782-42-5
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

Appearance	gray solid (powder)	Physical State	solid
Odor	odorless	Color	gray
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not flammable
Autoignition Temperature	Not available	Flash Point	(Not flammable)
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	(Insoluble)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available
Physical Form	Powder	Molecular Formula	C
Molecular Weight	12.01		

SECTION 10: Stability and reactivity

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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

SECTION 11: Toxicological information

Component Analysis - LD50/LC50

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

Graphite (7782-42-5)

Inhalation LC50 Rat >2000 mg/m³ 4 h (no deaths occurred)

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

Graphite	7782-42-5
DFG:	Category 4 (no significant contribution to human cancer ;except ultrafine particles ;inhalable fraction)

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

No data available

Medical Conditions Aggravated by Exposure

No data available

Additional Data

No data available

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

Graphite	7782-42-5
Fish:	LC50 96 h Danio rerio >100 mg/L [semi-static]

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

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.

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Water transportation

Not regulated.

Air transportation

Not regulated.

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, CN	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

Summary of Changes

9/14/2021 - Update to Section(s) 9, 11, 12.

Preparation Date

12/31/2018

Revision date

9/14/2021

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

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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).

Other Information

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