

Safety Data Sheet

Material Name: Poco Graphite Synthetic Graphite - Copper Impregnated - EDM Grade

SDS ID: 0133 (INDIA)

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Poco Graphite Synthetic Graphite - Copper Impregnated - EDM Grade

Product Description

This SDS covers the following EDM Grades: EDM-C3, EDM-C200.

Product Use

EDM Machining

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

Entegris, Inc.
129 Concord Road
Building 2
Billerica, MA 01821
USA

Telephone Number: +1-952-556-4181

Telephone Number: +1-800-394-4083 (toll free within North America)

Emergency Telephone Number:

CHEMTREC - U.S. - 1-800-424-9300

CHEMTREC - Intl. - 1-703-527-3887

E-mail: Product.stewardship@entegris.com

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with OECD Task Force on Harmonization of Classification and Labelling (Task Force on HCL) for health and environmental hazards, and by UNCETDG/ILO Working Group for Physical Hazards

None needed according to classification criteria.

GHS Label Elements**Symbol(s)**

None needed according to classification criteria.

Signal Word

None needed according to classification criteria.

Hazard Statement(s)

None needed according to classification criteria.

Precautionary Statement(s)**Prevention**

None needed according to classification criteria.

Response

None needed according to classification criteria.

Storage

None needed according to classification criteria.

Disposal

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

Other Hazards

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When processed by milling, grinding, welding, melting, sawing, brazing, burning or other similar processes the generated dust, fines, fume or mist may pose a hazard through inhalation, ingestion or by eye or skin contact. May form combustible dust concentrations in air (during handling or processing). Small chips and dust generated by processes may be environmentally hazardous and toxic to aquatic life. SECTION 16: Other information.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7782-42-5	Graphite	40-60
7440-50-8	Copper	40-60

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. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects**Acute**

respiratory tract irritation, eye irritation, allergic reactions, digestive tract damage

Delayed

allergic reactions, mutagenic effects, liver damage, digestive tract damage, blood damage, kidney damage, nose damage, respiratory system damage, skin damage, stomach disorders, circulatory system damage

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Note to Physicians

No data available

Section 5 - FIRE FIGHTING MEASURES**Extinguishing Media****Suitable Extinguishing Media**

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

None known.

Special 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.

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Hazardous Combustion Products

oxides of carbon, oxides of copper

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. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Avoid inhalation of material or combustion by-products. Dike for later disposal.

Special 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

Personal precautions, protective equipment and emergency procedures for non-emergency personnel

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.

Personal precautions, protective equipment and emergency procedures for emergency personnel

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. Collect spillage.

Methods and Materials for Containment and Cleaning Up

Do not touch or walk through spilled material. Stop leak if possible without personal risk. 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

Precautions for Safe Handling

Do not breathe dust. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions.

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Conditions for Safe Storage, Including any Incompatibilities

None needed according to classification criteria.

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances. Maintain graphite blocks in stable position. Any machine generated dust should be maintained in closed container. Maintain blocks as shipped, no specific handling or storage identified. Dust or powder from machining process should be kept in closed container.

Incompatible Materials

acids, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Graphite	7782-42-5
ACGIH:	2 mg/m ³ TWA (all forms except graphite fibers) respirable particulate matter
Copper	7440-50-8
ACGIH:	0.2 mg/m ³ TWA fume

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

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

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

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

Engineering Controls

Provide local exhaust or process enclosure 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.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear suitable protective clothing.

Respiratory Protection

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

Glove Recommendations

Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	gray to black solid block	Physical State	solid
Odor	odorless	Color	gray to black
Odor Threshold	Not available	pH	Not available

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Melting Point	1083 °C (Copper)	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	2.8 - 3.5 g/cc
Physical Form	solid block	Sublimation	3648.9 °C (graphite)
Molecular Weight	Not available		

Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical 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

acids, oxidizing materials

Hazardous decomposition products

Thermal decomposition products

oxides of carbon, oxides of copper

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

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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.

Product Toxicity Data**Acute Toxicity Estimate**

No data available.

Information on Likely Routes of Exposure**Inhalation**

irritation, digestive disorders, blood damage, kidney damage, respiratory system damage, skin damage, circulatory system damage

Skin Contact

irritation, allergic reactions

Eye Contact

irritation

Ingestion

kidney damage, liver damage, stomach disorders

Irritation/Corrosivity Data

respiratory tract irritation, eye irritation

Dermal Sensitization

Component data indicate the substance is sensitizing.

Respiratory Sensitization

No data available.

Immediate Effects

respiratory tract irritation, eye irritation, allergic reactions, digestive tract damage

Delayed Effects

allergic reactions, mutagenic effects, liver damage, digestive tract damage, blood damage, kidney damage, nose damage, respiratory system damage, skin damage, stomach disorders, circulatory system damage

Component Carcinogenicity

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

Germ Cell Mutagenicity

Available data characterizes this substance as mutagenic.

Tumorigenic Data

No data available for the mixture.

Reproductive Toxicity

No data available for the mixture.

Specific Target Organ Toxicity - Single Exposure

respiratory system, digestive system

Specific Target Organ Toxicity - Repeated Exposure

liver, blood, kidneys, nose, respiratory system, skin, stomach, digestive system, circulatory system

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

blood system disorders, kidney disorders, liver disorders, respiratory disorders, skin disorders and allergies

Section 12 - ECOLOGICAL INFORMATION
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Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

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Copper	7440-50-8
Fish:	LC50 96 h Pimephales promelas 0.0068 - 0.0156 mg/L; LC50 96 h Pimephales promelas <0.3 mg/L [static]; LC50 96 h Pimephales promelas 0.2 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 0.052 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 1.25 mg/L [static]; LC50 96 h Cyprinus carpio 0.3 mg/L [semi-static]; LC50 96 h Cyprinus carpio 0.8 mg/L [static]; LC50 96 h Poecilia reticulata 0.112 mg/L [flow-through]
Algae:	EC50 72 h Pseudokirchneriella subcapitata 0.0426 - 0.0535 mg/L [static] EPA ; EC50 96 h Pseudokirchneriella subcapitata 0.031 - 0.054 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna 0.03 mg/L [Static] EPA

Persistence and Degradability

No data available for the mixture.

Bioaccumulative Potential

No data available for the mixture.

Mobility

No data available for the mixture.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:

UN/NA #: Not regulated

IATA Information:

UN#: Not regulated

ICAO Information:

UN#: Not regulated

IMDG Information:

UN#: Not regulated

UN 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.

Section 15 - REGULATORY INFORMATION
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**International Regulations
Stockholm Convention**

No components of this material are listed.

Montreal Protocol

No components of this material are listed.

UN/FAO/Rotterdam Convention - Chemicals Subject to Prior Informed Consent (PIC)

No components of this material are listed.

**Component Analysis - Inventory
Graphite (7782-42-5)**

US	CA	EU	AU	PH	JP - ENC S	JP - ISH L	KR KECI - Anne x 1	KR KECI - Anne x 2	KR - REAC H CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Copper (7440-50-8)

US	CA	EU	AU	PH	JP - ENC S	JP - ISH L	KR KECI - Anne x 1	KR KECI - Anne x 2	KR - REAC H CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 0 Reactivity: 0

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

Further information

11/1/2017 - Update to Section(s) 3, 4, 8, 11. Section 3 update: Replaced CAS #7440-44-0 with CAS #7782-42-5.

Summary of Changes

New SDS: 05/11/2016

Revision date

11/1/2017

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

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- 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; 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; 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; NDSL – Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; 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; 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 NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

Other Information

Disclaimer:

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When processed by milling, grinding, welding, melting, sawing, brazing, burning or other similar processes the generated dust, fines, fume or mist may pose a hazard through inhalation, ingestion or by eye or skin contact. Combustible Dust; Serious Eye Damage/Eye Irritation Category 2A; Skin Sensitization Category 1; Germ Cell Mutagenicity Category 1A; Specific Target Organ Toxicity - Single Exposure Category 1: digestive tract; Specific Target Organ Toxicity - Single Exposure Category 3: respiratory system; Specific Target Organ Toxicity - Repeated Exposure Category 1: liver; Specific Target Organ Toxicity - Repeated Exposure Category 2: digestive tract, hematopoietic system, kidneys, nose, respiratory system, skin, stomach; Hazardous to the Aquatic Environment - Acute Category 1; Hazardous to the Aquatic Environment - Chronic Category 1.