

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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

Poco Graphite Synthetic Graphite - Copper Impregnated - EDM Grade

Product Description

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

Details of the supplier of the safety data sheet

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

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Chemtrec Local in Country (Tel Aviv) (972)-37630639

Chemtrec International 1-703-527-3887

E-mail: Product.stewardship@entegris.com

SECTION 2: Ingredients

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

Impurities and stabilizing additives contributing to the GHS Classification

None

SECTION 3: Hazard Identification**GHS Classification**

None needed according to classification criteria.

Label elements**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

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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.

Potential Environmental Effects

Very toxic to aquatic life with long lasting effects.

Other Hazards Which Do Not Result in Classification

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 4: First aid measures

Description of Necessary Measures**Inhalation**

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

Skin contact

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.

Eye contact

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**Symptoms: Immediate**

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

Symptoms: 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

Self-protection of the first aider

Wear suitable protective equipment. Perform first aid measures in a safe area.

Note to Physicians

No data available

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

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

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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.

Protective Equipment and Precautions for Firefighters

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

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.

Hazardous Combustion Products

oxides of carbon, oxides of copper

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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 for Containment

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.

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

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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

Exposure Guidelines

Component Exposure Limits

Graphite	7782-42-5
ACGIH:	2 mg/m3 TWA (all forms except graphite fibers) respirable particulate matter
OSHA (US):	15 mg/m3 TWA (synthetic) total dust ; 5 mg/m3 TWA (synthetic) respirable fraction
OSHA (Vacated):	10 mg/m3 TWA (synthetic) total dust ; 5 mg/m3 TWA (synthetic) respirable fraction
Israel:	2 mg/m3 TWA respirable fraction, all forms except graphite fibers
Copper	7440-50-8
ACGIH:	0.2 mg/m3 TWA fume
NIOSH:	1 mg/m3 TWA dust and mist ; 0.1 mg/m3 TWA fume
OSHA (US):	0.1 mg/m3 TWA fume ; 1 mg/m3 TWA dust and mist
OSHA (Vacated):	0.1 mg/m3 TWA as Cu dust, fume, mist
Israel:	1 mg/m3 TWA as Cu dust and mist (related to Copper compounds)

Biological limit value

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

Appropriate 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.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection

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

Hand protection

Wear appropriate chemical resistant gloves.

Eye/face protection

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

Skin and Body Protection

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

Wear appropriate chemical resistant clothing.

SECTION 9: Physical and chemical properties
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Appearance	gray to black solid block	Physical State	solid
Odor	odorless	Color	gray to black
Odor Threshold	Not available	pH	Not available
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

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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

Materials to Avoid (Incompatibilities)

acids, oxidizing materials

Hazardous decomposition products**Thermal decomposition products**

oxides of carbon, oxides of copper

SECTION 11: Toxicological information
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Information on Likely Routes of Exposure**Inhalation**

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

Skin

irritation, allergic reactions

Eye

irritation

Ingestion

kidney damage, liver damage, stomach disorders

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, 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

Irritation/Corrosivity Data

respiratory tract irritation, eye irritation

Respiratory Sensitization

No data available.

Dermal Sensitization

Component data indicate the substance is sensitizing.

Component Carcinogenicity

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

Mutagenic Data

Available data characterizes this substance as mutagenic.

Reproductive Effects Data

No data available for the mixture.

Tumorigenic Data

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.

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

Medical Conditions Aggravated by Exposure

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

SECTION 12: Ecological information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

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

Mobility in soil

No data available for the mixture.

Persistence and Degradability

No data available for the mixture.

Bioaccumulative potential

No data available for the mixture.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal Methods

Dispose in accordance with all applicable regulations.

Contaminated packaging disposal

Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

IATA Information:

UN#: Not regulated

ICAO Information:

UN#: Not regulated

IMDG Information:

UN#: Not regulated

International Bulk Chemical Code

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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

Special precautions

None

SECTION 15: Regulatory information

Environmental Protection Law - Pollutant Release and Transfer Register (PRTR) - Threshold Quantities

Copper	7440-50-8
	0.5 kg TQ (land ,seawater ,wastewater); 20 kg TQ (air)

Risk Management for Hazardous Materials - Separation Distances in Stationary Hazardous Sources - Toxic Substances

None of this product's components are on the list

Risk Management for Hazardous Materials - Policy of Accidental Release Prevention - Flammable Substances

None of this product's components are on the list

Risk Management for Hazardous Materials - Policy of Accidental Release Prevention - Propellant Substances

None of this product's components are on the list

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

Summary of Changes

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

11/1/2017 - Update to Section(s) 2, 4, 8, 11. Section 2 update: Replaced CAS #7440-44-0 with CAS #7782-42-5.

Preparation Date

05/11/2016

Revision date

11/1/2017

Product Use

EDM Machining

Restrictions on Use

None known.

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; 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:

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

Safety Data Sheet

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

SDS ID: 0133 (ISRAEL)

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.

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.

The information contained in this sheet is based on the best knowledge and experience currently available.