

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: June 14, 2017

SPI #11431-AB, 11431-BA, 11433-AB, 11433-BA,
11435-AB, 11435-BA, 11436-BA, and 11436-AB

Carbon Fiber and Carbon Thread

Section 1.1: Identification

Chemical Name/Synonyms Carbon Fiber / Carbon Thread

CAS #'s 7782-42-5

Chemical Formula..... C

Section 1.2: Relevant Uses/Restrictions

For use in carbon coating in the electron microscopy laboratory.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

GHS: Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

Classification according to regulation (EC) No 1271/2008

Not a hazardous substance.

Classification according to European Directive 67/548/EEC as amended

Not a hazardous substance.

2.2 Label elements: none

Hazard statements: none

Precautionary statements: none

Unknown percentage statements (if needed): none

2.3 Other Hazards: none known

Hazardous Material Information System USA

Health 1
Fire Hazard 0
Reactivity 0
Personal Protection

NFPA Rating (estimated)

Health 1
Flammability..... 0
Reactivity 0

Section 3: Composition

3.1 Substances:

Name	CAS #	Approximate Weight %	EC #
Graphite	7782-42-5	>99.99%	231-955-3

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:

If inhaled, move person into fresh air. If not breathing, give artificial respiration.

Skin Contact:

In case of skin contact, wash off with soap and water.

Eye Contact:

In case of eye contact, immediately flush eyes with copious amounts of flowing water for at least 15 minutes. If irritation persists, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

The most important symptoms and effects are described in the labeling (Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant data available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or CO₂.

5.2 Special hazards arising from the substance or mixture

No data available.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

Further information: No data available.

Section 6: Accidental Release Measures

This product is not subject to "accidental release" under normal use conditions.

6.1 Personal precautions

Avoid dust formation.

Avoid breathing vapors, mist or gas.

For personal protection see Section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Sweep up and shovel.

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see Section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Use normal personal hygiene and good housekeeping.

7.2 Conditions for safe storage, including any incompatibilities

Store in the plastic bags in which the product is shipped, tightly sealed.

7.3 Specific end uses

For use in carbon coating in the electron microscopy laboratory.

This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection

Workplace exposure limits

Graphite	CAS# 7782-42-5	RTECS No. MD9659600	
TWA	15 million particles per cubic foot		US OSHA, Table Z-3 Mineral Dusts
TWA	2.5 mg/m ³		US ACGIH, Threshold Limit Value

Biological limit values: No further relevant information available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Chemical fume hood with exhaust suggested.

8.2.2 Individual protection measures

Skin protection: No particular protection needed when handling this material on an occasional basis. For converting bulk rolls of the fiber into smaller packs, we recommend the wearing of some kind of gloves, for example, latex or nitrile.

Respiratory protection: For the occasional cutting of a fiber, special protection is not needed, provided it is done in a chemical fume hood with exhaust.

8.2.3 Environmental exposure controls

Do not let enter sewers, drains or waterways.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Black fiber, with possibly "greasy" feel

Odor: None

Odor threshold: No data available

pH: Not applicable

Melting point/Freezing point: 3650 °C (6602 °F) (sublimes)

Boiling point/Boiling point range: > 3000 °C

Flash Point: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: 0 mm Hg

Vapor Density: No data available

Specific Gravity: 2.0-2.25 g/cc

Solubility: Insoluble

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

9.2 Other information: No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity: This material is not reactive.

10.2 Chemical Stability: The product is stable under normal use conditions.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to avoid: Heat, sparks, flames and other ignition sources; avoid heating above 290 °C (554 °F).

10.5 Incompatible materials: Strong oxidizers, fluorine, peroxides.

10.6 Hazardous decomposition products: None known

Section 11: Toxicological Information

Information on the likely routes of exposure

11.1 Information on toxicological effects

A. Acute toxicity

LD50	Oral	Rat (female)	> 2,000 mg/kg (OECD Test Guideline 423)
LC50	Inhalation	Rat (male & female)	2,000 mg/m ³ (4h) (OECD Test Guideline 403)

B. Skin corrosion/irritation: Concentrate may cause skin irritation.

C. Serious eye damage/irritation: May cause eye irritation.

D. Respiratory or skin sensitization: Not a known sensitizer.

E. Germ cell mutagenicity: No known germ cell mutagenicity.

F. Carcinogenicity: No component known to be present in this product at >0.1% is presently listed as a carcinogen by IARC, NTP, or OSHA.

G. Reproductive toxicity: No data available.

H. STOT-single exposure: No data available.

I. STOT-repeated exposure: No data available.

J. Aspiration hazard: No data available.

Additional information:

RTECS: MD9659600

Repeated dose	Rat (male)	Feed	NOAEL: 813 mg/kg
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Section 12: Ecological Information

12.1 Toxicity:

Toxicity to fish: semi-static test LC50 Danio rerio (zebra fish) >100 mg/l (96 h)

Toxicity to aquatic invertebrates: static test EC50 Daphnia magna (water flea) > 100 mg/l (48 h)

Toxicity to algae: static test EC50 Pseudokirchneriella subcapitata > 100 mg/l (72 h)

12.2 Persistence and degradability: No data available.

12.3 Bio-accumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Disposal must be in accordance with all local, state and federal regulations regarding health, air and water pollution.

Section 14: Transport Information

DOT: Not regulated.

IATA: Not regulated.

IMDG: Not regulated.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture

US Regulations:

TSCA: All components of this product are listed on the Toxic Substance Control Act (TSCA) Section 89(b) Chemical Inventory.

OSHA: This product is not a HAZMAT as defined by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

SARA Section 302 Extremely Hazardous Substances: Not listed.

SARA 311/312: Not listed.

SARA Section 313 Toxic Chemicals: Not listed.

California Prop. 65: Not listed.

State Right-to-Know Lists:

Graphite, CAS # 7782-42-5, is listed on the Massachusetts, Pennsylvania, and New Jersey Right-to-Know Lists.

CANADA:

DSL: All components of this product are listed on the Canadian Environmental Protection Act provisional domestic substances list (DSL).

WHMIS: This product is not a "controlled product" as defined by the Canadian Workplace Hazardous Materials Information System (WHMIS).

15.2 Chemical Safety Assessment: A chemical safety assessment has not been carried out.

Date of Preparation: 14 June 2017.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CMRG: Chemical Manufacturer's Recommended Guidelines
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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