

SPECIALTY MATERIALS, INC.

Manufacturer of Boron and Silicon Carbide Fiber and Boron Nanopowder

SPECIALTY MATERIALS, INC.

SAFETY DATA SHEET

Carbon Monofilament

----- SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION -----

Product Name: Carbon Monofilament (CMF)

Product Use Description: 1.3 mil (0.0013 in./34 μ m) diameter glassy carbon fiber designed for use as a resistively heated substrate for continuous CVD monofilaments. This CMF also has properties for use as microelectrodes for electrochemical analysis.

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HMIS LABEL

HEALTH	0
FIRE	0
REACTIVITY	0
PPE	B

----- SECTION 2 – HAZARDS IDENTIFICATION -----

Overview: Odorless continuous black fiber, typically 34 μ m in diameter. Not expected to present an immediate acute health hazard. Although rare, slight irritation may occur from fiber becoming imbedded in the skin. No known chronic effects have been identified.

Classifications: No hazard classifications.

Acute Health Effects: Although rare, slight irritation may occur from fiber becoming imbedded in the skin. A typical fiber is sufficiently large in diameter and length to be considered unlikely to be respirable.

Chronic Health Effects: No known chronic effects have been identified. Effects of overexposure in studies involving chronic application of pitch-based carbon fiber suspended in benzene extract to skin of mice produced weak localized tumorigenic response.

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----- **SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS** -----

Composition: 95 – 99% Carbon (CAS No. 7440-44-0)
1 – 5% Sulfur

----- **SECTION 4 – FIRST AID MEASURES** -----

Signs and Symptoms of Exposure: Slight irritation due to imbedded fiber, as in a splinter, and eye irritation.

Emergency and First Aid Procedures: If eye contact occurs flush with copious amounts of water and seek medical attention.

Skin irritation due to imbedded fiber should be treated by washing the affected area with plenty of water and soap, if available. If possible, remove any observable fiber splinters.

Inhalation exposure to respirable fibers is not expected to occur under normal industrial conditions. Under very limited circumstances however, exposure to airborne fiber could occur, and may result in respiratory tract irritation. In such cases, move the victim to a fresh air location and seek immediate medical attention.

In the unlikely event that ingestion of fiber has occurred, seek immediate medical attention.

----- **SECTION 5 – FIRE & EXPLOSION DATA** -----

Flash Point: Not Flammable

Flammable Limits in Air
% by Volume:
LEL Lower: Not established
UEL Upper: Not established

Auto-Ignition Temperature: Not applicable

Extinguisher Media: Media approved for Class A hazards, such as halogenated agents, foam and steam or water fog.

Special Fire Fighting Procedures: Should surrounding chemicals or material warrant, use NIOSH/MSHA approved SCBA & full protective equipment.

Unusual Fire and Explosion Hazards: None. Fibrous carbon is electrically conductive and can cause shorting in electrical equipment if it becomes airborne.

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----- SECTION 6 – ACCIDENTAL RELEASE MEASURES -----

Steps to be Taken In Case
Material Is Released or Spilled: Collect without generating airborne lengths of fiber. Wear appropriate protective gloves and safety glasses as described in Section 8.

----- SECTION 7 – HANDLING & STORAGE -----

Precautions to be taken
in Handling and Storage: Store in a cool, dry location. Wash hands with soap and water after handling. Wear appropriate protective clothing as described in Section 8 during handling activities.

Other Precautions: Recommend safety glasses.

----- SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION -----

Respiratory Protection Not considered a respirable hazard. General good practice should include the use of a dust mask when transferring or manipulating large quantities of unspooled fiber waste.

Ventilation: As per ACGIH for good quality indoor air.

Local Exhaust: Not Applicable

Mechanical (General): Not Applicable

Protective Gloves: Recommended (29 CFR 1910.132) latex or nitrile gloves recommended

Eye Protection: Recommended (29 CFR 1910.133) safety glasses (safety goggles in the presence of airborne fiber) recommended.

Other Protective Clothing
or Equipment: Additional Protective Clothing to include Long-Sleeved Garments when transferring or manipulating large quantities of unspooled fiber waste.

Work/Hygienic Practices: Wash hands thoroughly before Eating or Smoking.

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----- SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES -----

Boiling Point:	Not applicable
Specific Gravity (H ₂ O = 1):	Approximately 1.6
Vapor Pressure (mm Hg) @ RT:	Negligible
Solubility in Water:	Negligible
Reactivity in Water:	Negligible
Melting Point:	>3000°C
Appearance and Odor:	Odorless black fiber, typically 34 µm in diameter.

----- SECTION 10 – STABILITY & REACTIVITY DATA -----

Stability:	Unstable () Stable (X)
Incompatibility (Materials to Avoid):	None known
Hazardous Decomposition Products:	None known
Hazardous Polymerization:	May Occur () Will Not Occur (X)
Conditions to Avoid:	None known

----- SECTION 11 – TOXICOLOGICAL INFORMATION-----

Not considered an industrial poison. Sub chronic inhalation tests in rats exposed to fiber for 16 weeks revealed no signs of fibrosis. No reproductive toxicity or teratogenicity (birth defects) data are available. No carcinogenicity data are available.

The current criteria for respirable fiber has generally been reported to be equal to or less than 3.5 µm in diameter. This carbon fiber product has a diameter of 34 µm.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN:

National Toxicology Program:	Yes () No (X)
I.A.R.C. Monographs:	Yes () No (X)
OSHA:	Yes () No (X)

----- SECTION 12 – ECOLOGICAL INFORMATION-----

Ecological Data:	No data are available
Environmental Impact Data:	No data are available
Physical/Chemical Properties:	No data are available

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----- SECTION 13 – DISPOSAL CONSIDERATIONS -----

Waste Disposal Method
(Consult Federal, State,
and Local Regulations):

Not a hazardous waste. If discarded in its manufactured form, this product is not considered a hazardous waste. Do not incinerate carbon fiber, since airborne fiber may cause electrical malfunctions.

Burial at a permitted landfill is recommended.

----- SECTION 14 – TRANSPORT INFORMATION -----

This product is not regulated as dangerous or hazardous goods under DOT, IATA or UN shipping regulations.

----- SECTION 15 – REGULATORY INFORMATION -----

U. S. Federal Regulations:

All chemical substances in this product are listed on the **TSCA** Chemical Substance Inventory.

Occupational Safety and Health Act (**OSHA**) – This Safety Data Sheet (SDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29CFR 1910.1200.

National Toxicology Program (**NTP**) Report on Carcinogens, 12th Edition (2010): Not Listed.

----- SECTION 16 – OTHER INFORMATION -----

SDS history:

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(rev letter or number): 0

NOTICE:

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