

# MATERIAL SAFETY DATA SHEET



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Product: SWCNT

## Section 1 Product Identification

Chemical Name: Carbon Fullerene  
Formula: Carbon  
Chemical Family: Synthetic Graphite  
Synonyms: Carbon Nanotubes  
CAS Number: 7782-42-5 (Graphite)

Raw SWNTs		Characterization Method
Production Method	PECVD	
Available For	Black Powder or Solution	
Diameter	0.8 – 2 nm	TEM, Raman
Length	> 3 $\mu$ m	SEM, TEM
SWNT Purity	70 to 90%	TGA, SEM
Carbon Fraction	100%	TGA, Raman
Odor	Odorless	

## Section 2 Composition and Information on Ingredients

Component %  
OSHA/PEL 15 mg/m<sup>3</sup> (total dust)  
5 mg/m<sup>3</sup> (respirable fraction)  
Synthetic graphite Up to 100%  
ACGIH/TLV 2 mg/m<sup>3</sup> TWA  
Metallic impurity Balance

## Section 3 Hazards Identification

Potential Health Effects

Eye Contact: May cause eye irritation  
Skin Contact: No known hazards, but may be mildly irritating  
Inhalation: May cause irritation to respiratory tract  
Ingestion: No known hazards, but may irritate gastrointestinal tract  
Acute and Chronic Health Effects:  
High concentration of dusts may be irritating to eyes, skin, mucus membranes and respiratory tract.

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## Section 4 First Aid Measures

Eye Exposure: Immediately flush eyes with copious amounts of water for 15 minutes. If exposure persists, get medical attention.

Skin Contact: Flush skin with water.

Inhalation: Remove to fresh air. If breathing difficulties persist, get medical attention.

Ingestion: Not expected to require first aid. If large amounts swallowed, give water and get medical advice.

## Section 5 Fire Fighting Measures

Flash Point: Not applicable.

Explosion Limits: Unknown

Extinguisher Medium: Water, Carbon Dioxide, Dry Chemical, or Foam

Special Procedures: None

Decomposition Products: Carbon Monoxide, Carbon Dioxide

Unusual Hazards: Thermal decomposition or combustion may produce dense smoke.

Special Risks: Emits toxic fumes under fire conditions.

## Section 6 Accidental Release Measures

Spill Procedures: Sweep or vacuum according to normal housekeeping practices.

## Section 7 Handling and Storage

Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage: Keep in closed container for storage.

## Section 8 Exposure Controls and Personal Protection

Eye Protection: Use approved safety glasses or goggles.

Respiratory Protection: Use of a dust mask is recommended.

Skin Protection: Impervious gloves and protective clothing to prevent skin contact.

Ventilation: A local or general exhaust system is recommended.

Engineering Control: Safety shower and eye bath. Mechanical exhaust required.

General Hygiene Measures: Wash thoroughly after handling.

## Section 9 Physical and Chemical Properties

Form and Color: Clumpy or fluffy black powder or small black spheres

Molecular Weight: 840 to greater than 10,000,000

Boiling Point: Not applicable

Melting Point: Not determined. Expected to be greater than 2000°F

Specific Gravity: Greater than 1

Solubility in Water: Partially Soluble

Odor: Odorless

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## Section 10 Stability and Reactivity

Stability: Stable under normal conditions of use  
Hazardous Polymerization: No  
Hazardous Decomposition Products: Thermal decomposition or combustion may produce dense smoke, carbon monoxide and carbon dioxide  
Materials to avoid: Strong oxidizing and reducing agents  
Incompatibilities: None known  
Conditions to avoid: None known

## Section 11 Toxicological Information

Effects: No known toxicological effects

## Section 12 Environmental Information

Ecological Information: No known ecological harms

## Section 13 Disposal Considerations

Disposal: Dispose of this material in accordance with local, state, and federal regulations.

## Section 14 Transportation Information

Not regulated.

## Section 15 Regulatory Information

This material is listed on the US Toxic Substances Control Act (TSCA) Inventory and the following chemical inventories: Canadian Domestic Substances List (DSL), European Inventory of Existing Commercial Chemical Substances (EINECS), Korean Existing Chemicals List (ECL), Australian Inventory of Chemical Substances (AICS), the Philippines Inventory of Chemicals and Chemical Substances (PICCS), and the Swiss Giftliste 1 Inventory of Notified New Substances. In addition, this substance is not regulated in Japan and excluded from the Japanese Chemical Substances Control Law according to the Japanese Ministry of Economy, Trade and Industry, formerly the Ministry of International Trade and Industry (MITI).

## Section 16 Other Information

### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	0	0	Synthetic graphite powder

### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

Health	Flammability	Reactivity	BASIS
1	0	0	Synthetic graphite powder

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**Label Precautions:**

Do not get in eyes, on skin or on clothing.  
Do not breathe dust.  
Wash thoroughly after handling.  
Keep container closed.  
Use with adequate ventilation.

**Label First Aid:**

If inhaled, remove to fresh air. If breathing difficulties persist, get medical attention. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. If irritation develops or persists, get medical attention.

**Disclaimer:**

Nanotailor, Inc. provides the information contained herein in good faith and makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Nanotailor, Inc. makes no representations or warranties, either express or implied, regarding the suitability of the material for any purpose or the accuracy of the information contained within this document. Accordingly, Nanotailor, Inc. will not be responsible for damages resulting from use of or reliance upon this information.

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