



## Technical Data Sheet

MWCNT C-001 is a carbon nanotube material with multiwalled structure. MWCNT 001 is a special grade of nano material based on carbon chemistry. It consists of concentric

### MWCNT C-001

#### **CARBON NANOTUBES - MULTIWALLED**

tubes of graphene sheets rolled in to forming long tubes. Due to the typical molecular structure, they possess unique property combination, including high thermal and electrical conductivities.

|                             |   |                              |
|-----------------------------|---|------------------------------|
| <b>Material Description</b> | : | Multiwalled Carbon Nanotubes |
| <b>Chemical Formula</b>     | : | C                            |
| <b>CAS Number</b>           | : | 308068-56-6                  |
| <b>Form Factor</b>          | : | Fluffy and very light powder |
| <b>Colour</b>               | : | Black                        |

#### CATEGORY

- Nano Material based on Carbon Chemistry

#### MANUFACTURING METHOD

- This grade is made by Chemical Vapour Deposition techniques using state-of-the-art equipment

#### APPLICATION

- High performance additive in polymer composites towards high strength, electrical / thermal conductivity and others
- EMI shielding / Antistatic applications
- Lithium-ion battery materials
- Advanced textile applications
- Medical applications
- Conductive inks / coatings / flooring
- Filtration & Purification

Rev 09/24

## **Ddev Plastiks Industries Limited**

**Surangl Works** : Survey No. - 320/1/1/2/2, Village – Surangl, Chkhall Road, Silvassa – 396240  
(Dadra and Nagar Haveli and Daman and Diu), Tel : +91 9909006402

**Dadra Works** : Survey No – 24/3, Village : Demni, Demni Road, Dadra, Silvassa - 396193, Tel : +91 9909006426

**Daman Works** : 168/151-158, Dabhel Industrial Co-operative Society Ltd., Dabhel, Daman - 396210, Tel: +91 9909006407

E-mail : ddndnh\_gst@ddevgroup.in, [www.ddevgroup.in](http://www.ddevgroup.in)

CIN : U24290WB2020PLC241791



## **SAFETY MEASURES**

- Direct exposure to body parts must be avoided by usage of gloves, goggles, masks and PPE kits
- Inhalation / ingestion must be avoided as they may be fatal
- Keep out of the reach of children
- Disposal methods must follow Government guidelines
- While cleaning spilling, moist cloth must be used to avoid spreading out
- This grade is to be used for industrial / R&D purposes only

## **TECHNICAL SPECIFICATION**

| <b>Properties</b>                                    | <b>Test method</b> | <b>Unit</b>       | <b>Typical value</b> |
|--|--------------------|-------------------|----------------------|
| Average Outer Diameter                               | SEM                | nm                | 50                   |
| Average Length                                       | SEM                | µm                | 25                   |
| Purity   | TGA                | %                 | 94                   |
| Bulk Density   | Tap Density        | g/cc              | 0.195                |
| Specific Surface Area                                | BET                | m <sup>2</sup> /g | 54                   |
| I <sub>G</sub> / I <sub>D</sub> Ratio (514 nm laser) | Raman Spectra      | -                 | 2.4                  |
|  |                    |                   |                      |

**Storage** : The material shall be kept in a cool and dry place

**Package** : 1gm / 5gm / 10gm / 100gm / 250gm / 1000gm

### **Note:**

- Following products based on the above MWCNT can be supplied on request
  - High purity grades
  - Bucky papers
  - Suspensions in specific solvents
  - Masterbatches / compounds in specific base polymers
- Our technical team will be happy to work with you
  - In developing custom-made grades for your applications
  - Extend help in developing applications using our MWCNT

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### **DISCLAIMER:**

The above Technical Data Sheet presents information and data, true and accurate to the best of our knowledge. No warranty expressed or implied can be made regarding performance or otherwise.

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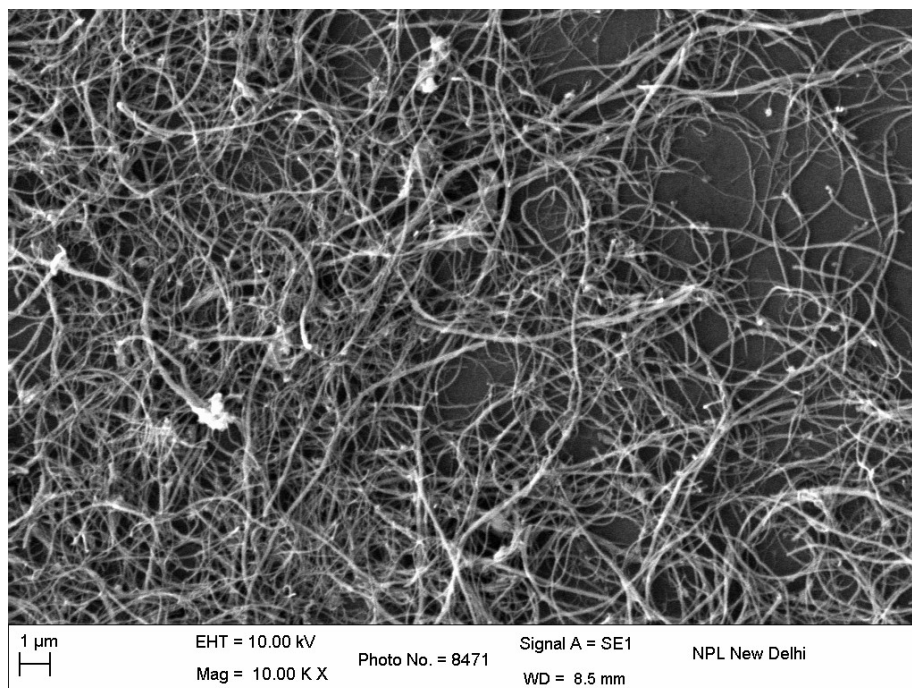
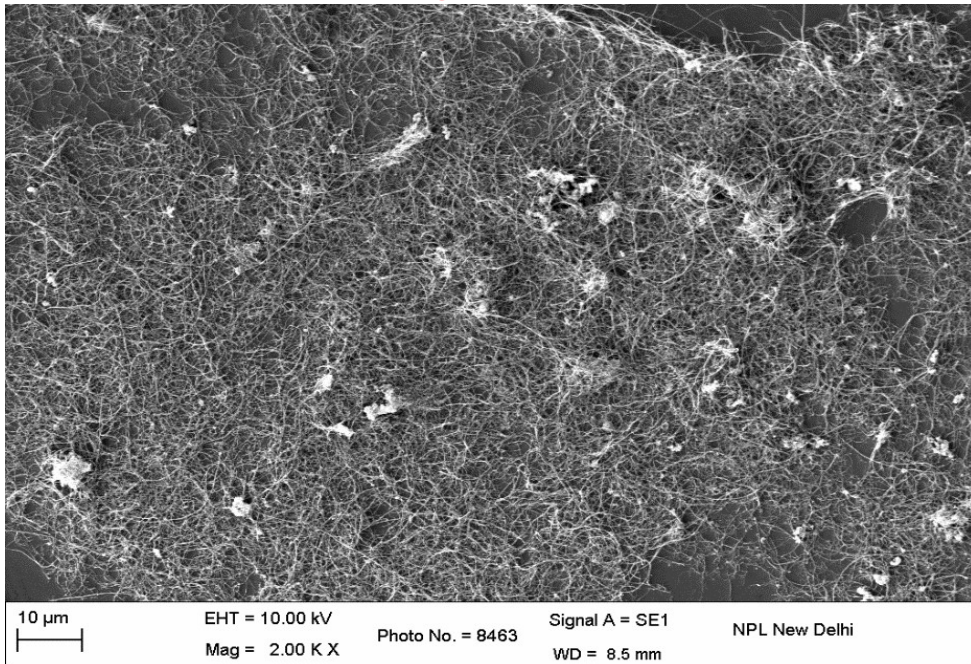
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## SEM Images of MWCNT C-001



**Average Outer Diameter (SEM) = 50.0 nm**  
**Average Length (SEM) = 25.8 μm**

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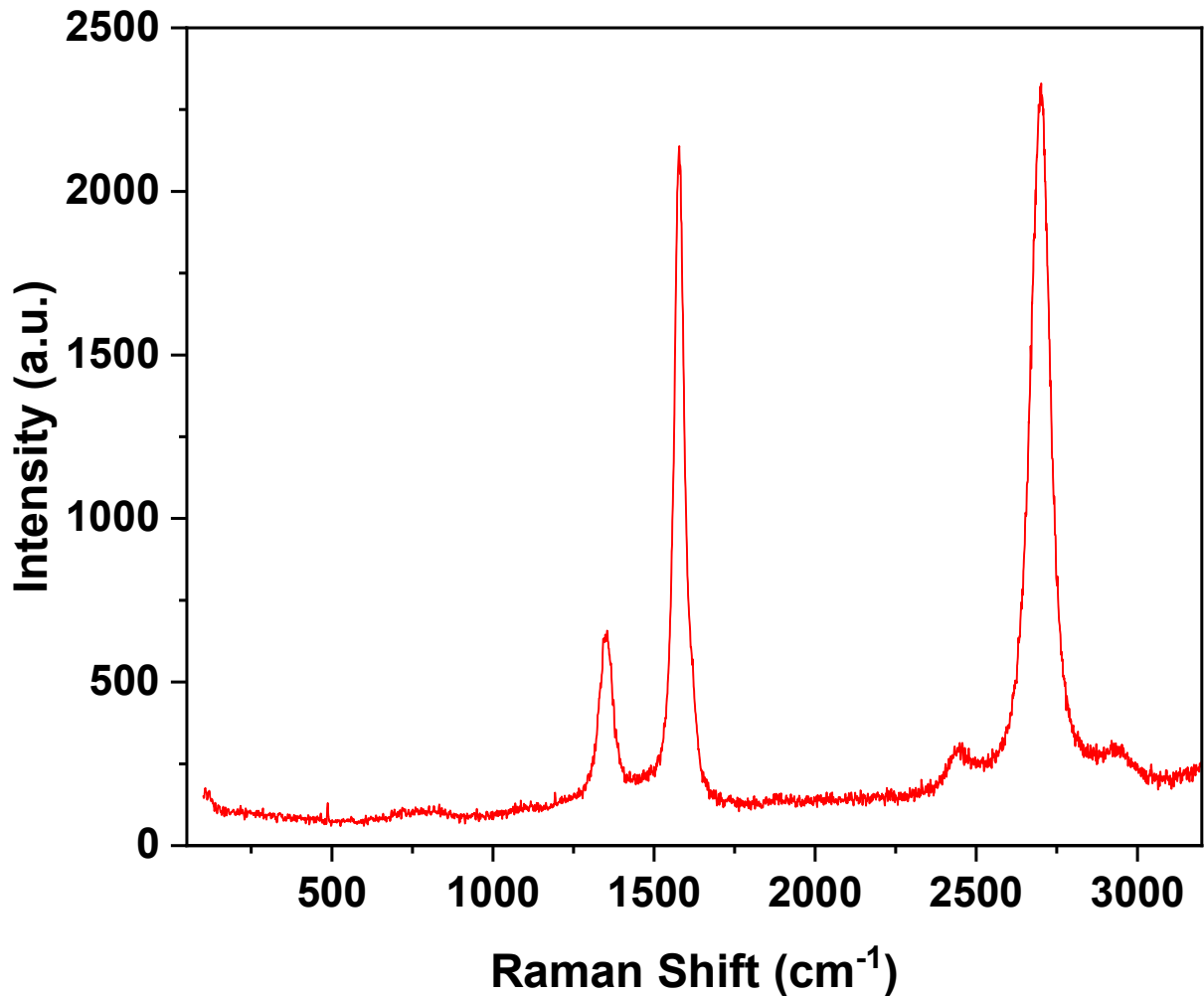
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## RAMAN SPECTRA of MWCNT C-001



I<sub>g</sub> / I<sub>d</sub> Ratio = 2.40  
(514 nm Laser Source)

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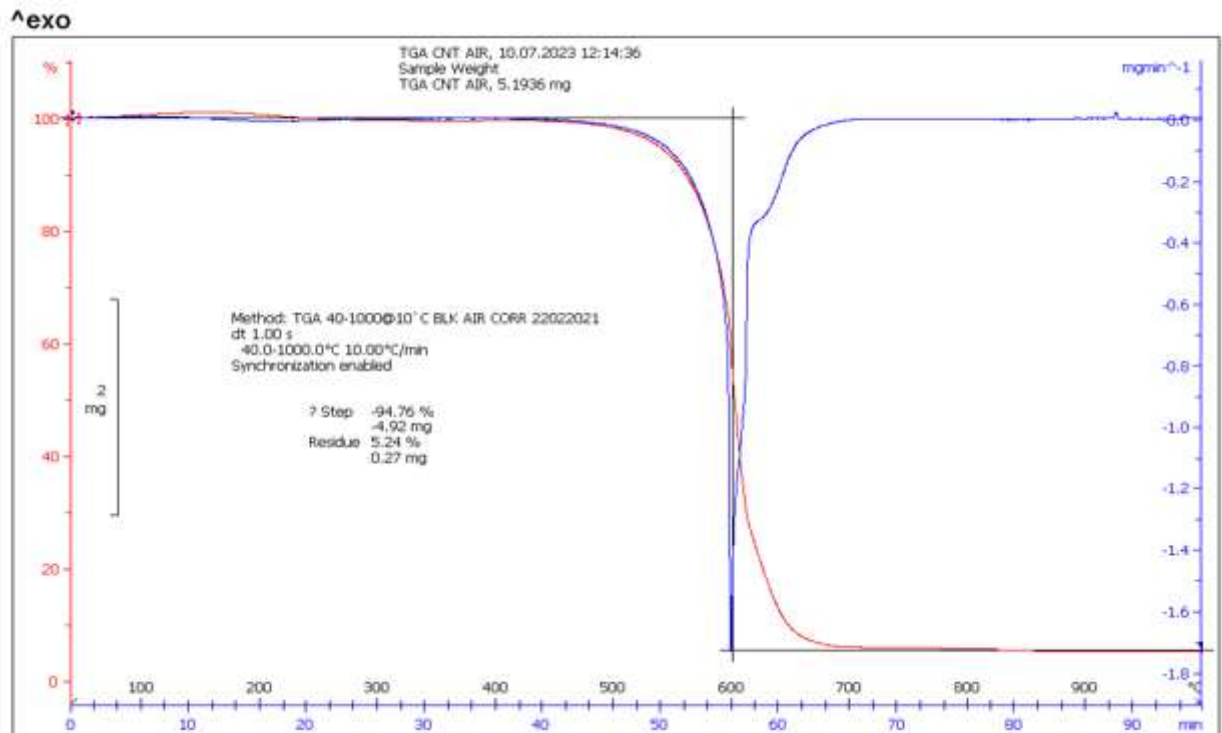
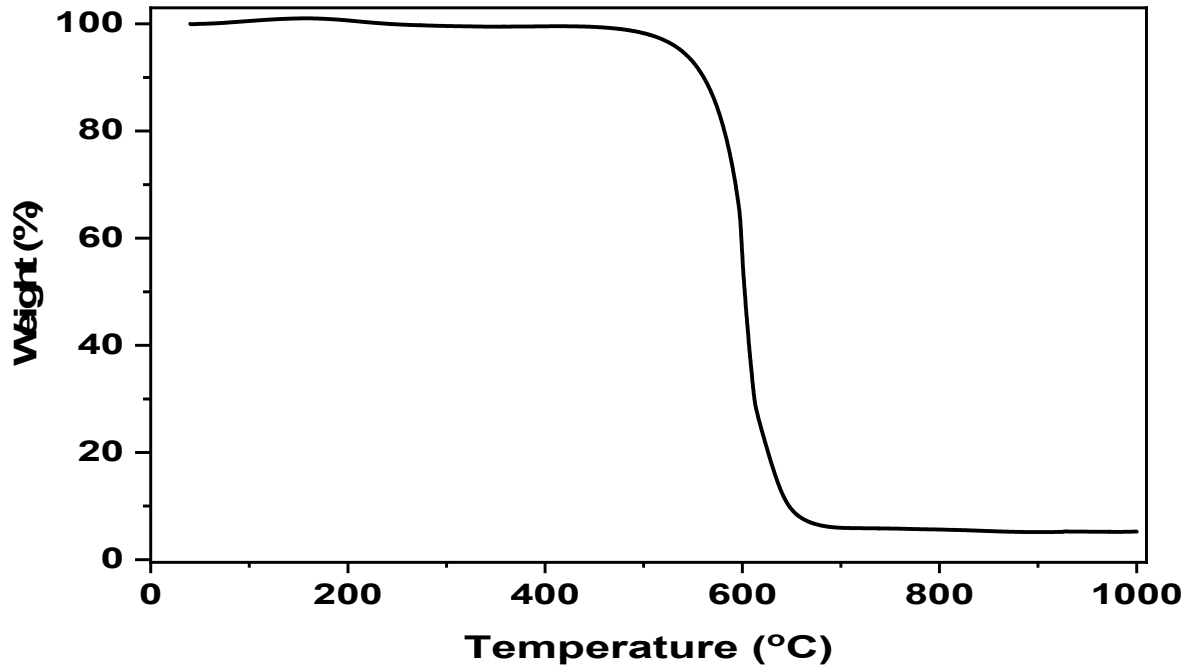
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### TGA TRACE of MWCNT C-001



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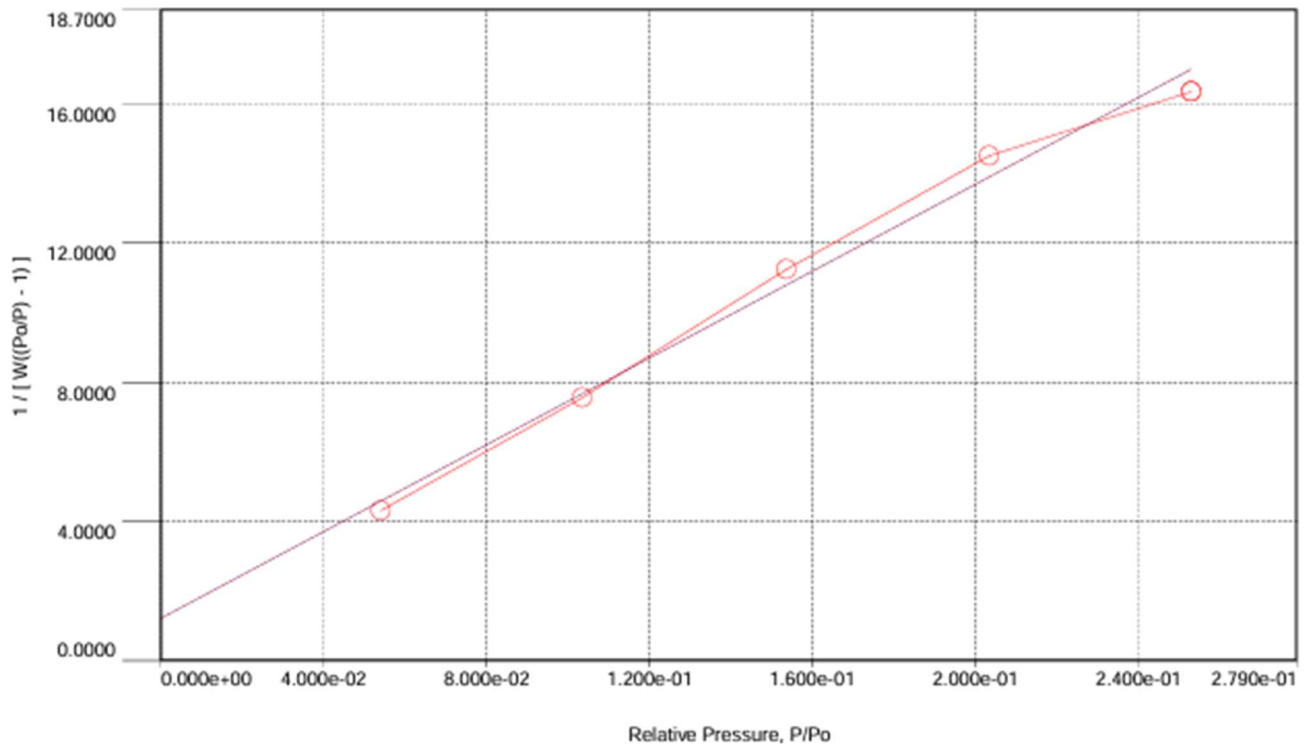
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## BET SURFACE AREA of MWCNT C-001



### BET summary

|                              |                          |
|------------------------------|--------------------------|
| Slope =                      | 62.356                   |
| Intercept =                  | 1.217e+00                |
| Correlation coefficient, r = | 0.994401                 |
| C constant =                 | 52.254                   |
| Surface Area =               | 54.781 m <sup>2</sup> /g |

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