



## Technical Data Sheet

### ACS Material Purified Carboxylic Multi-Walled Carbon Nanotubes (MWNTs-COOH, ~8 nm)

#### Table of Contents

---

[1 – Preparation Method](#)

---

[2 – Characterizations](#)

---

[3 – Application Fields](#)

---

#### **Contact Information:**

Manufacturer: ACS Material, LLC.

Address: 959 E Walnut St., Suite 100,  
Pasadena, CA 91106, USA

Phone: (866)-227-0656

Fax: (781)-518-0284

E-Mail: [contact@acsmaterial.com](mailto:contact@acsmaterial.com)

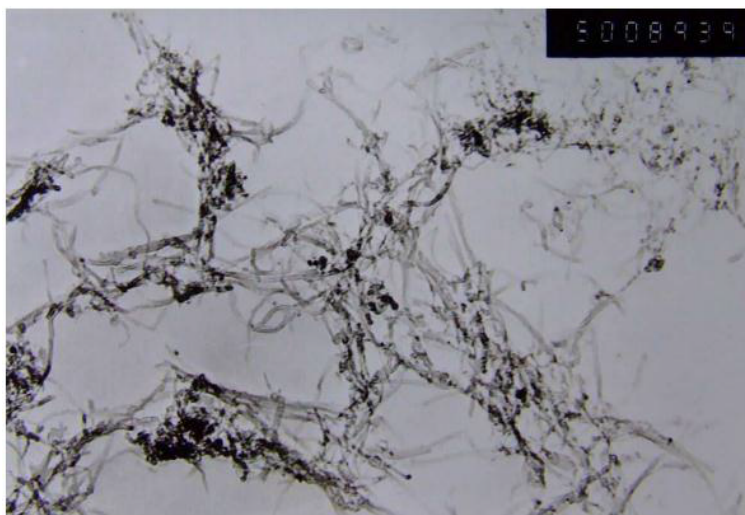
Revision: 110917

## 1. Preparation Method

Chemical Vapor Deposition (CVD) Method

## 2. Characterizations

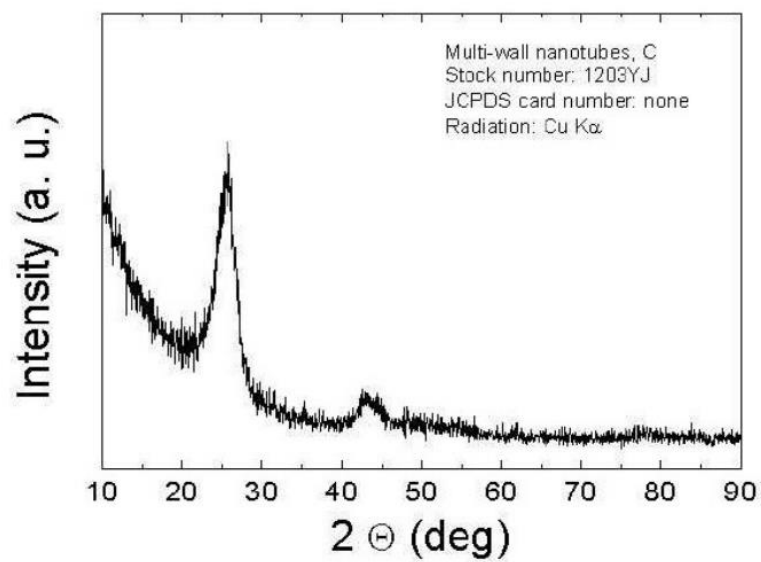
Type:	Type A	Type B
Purity:	>95%	>95%
-COOH Content:	3.86 wt.%	3.86 wt.%
Color:	Black	Black
Outer Diameter:	<8 nm	<8 nm
Inner Diameter:	2-5 nm	2-5 nm
Length:	0.5-2 $\mu\text{m}$	10-30 $\mu\text{m}$
SSA:	>500m <sup>2</sup> /g	>400m <sup>2</sup> /g
Tap Density:	0.27g/cm <sup>3</sup>	0.27g/cm <sup>3</sup>
True Density:	~2.1g/cm <sup>3</sup>	~2.1g/cm <sup>3</sup>
EC:	>100 S/cm	>100 S/cm



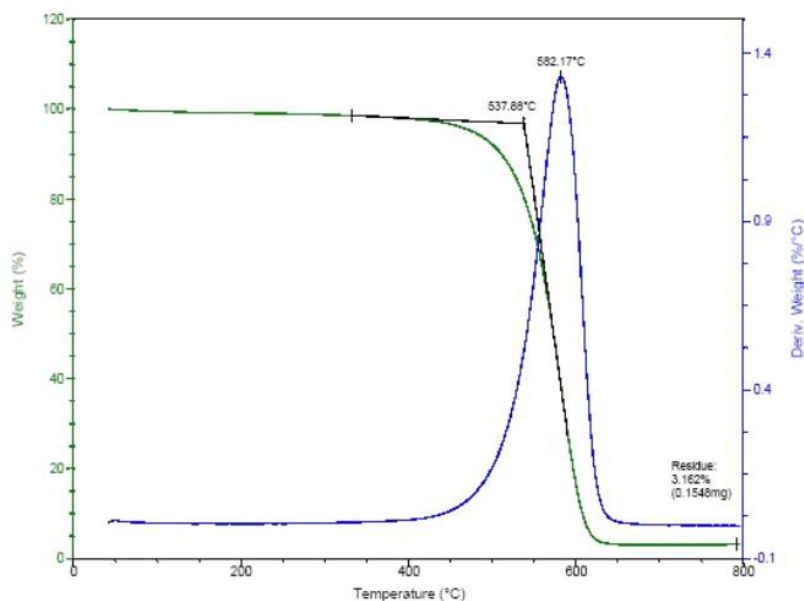
TEM Image of ACS Material Purified MWNTs-COOH (Length = 0.5-2  $\mu\text{m}$ )



SEM Image of ACS Material Purified MWNTs-COOH (Length = 10-30  $\mu\text{m}$ )



XRD Analysis of ACS Material Purified MWNTs-COOH (Length = 10-30  $\mu\text{m}$ )



TG Analysis of ACS Material Purified MWNTs-COOH (Length = 10-30  $\mu\text{m}$ )

### 3. Application Fields

Catalysts, additives in polymers, nanoelectrodes, drug delivery, sensors, electromagnetic-wave absorption and shielding, electron field emitters for cathode ray lighting elements, flat panel display, gas-discharge tubes in telecom networks, energy conversion, lithium-battery anodes, hydrogen storage, supercapacitors, nanotube composites (by filling or coating), nanoprobe for STM, AFM, and EFM tips, nanolithography, reinforcements in composites, *etc.*

**Disclaimer:** ACS Material, LLC believes that the information in this Technical Data Sheet is accurate and represents the best and most current information available to us. ACS Material 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, ACS Material will not be responsible for damages resulting from use of or reliance upon this information.