



## Technical Data Sheet

# ACS Material Purified Carboxylic Multi-Walled Carbon Nanotubes (MWNTs-COOH, 8-15 nm)

### Table of Contents

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[1 – Preparation Method](#)

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[2 – Characterizations](#)

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[3 – Application Fields](#)

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## 1. Preparation Method

Chemical Vapor Deposition (CVD) Method

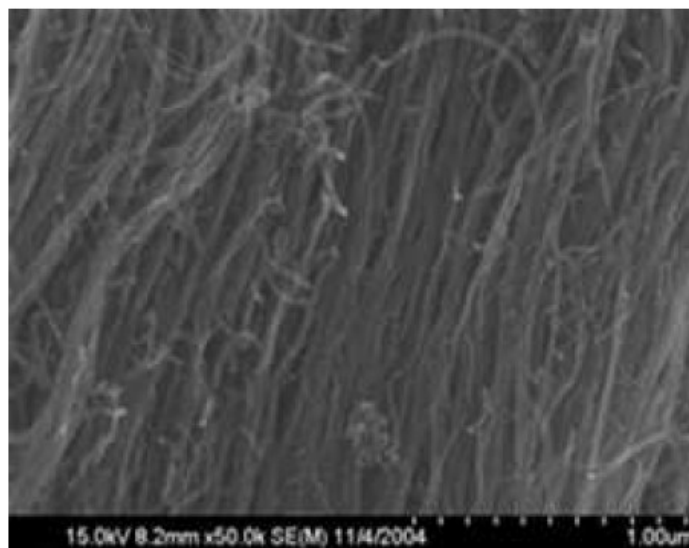
## 2. Characterizations

<b>Purity:</b>	>95%
<b>-COOH Content:</b>	3.86 wt.%
<b>Color:</b>	Black
<b>Outer Diameter:</b>	8-15 nm
<b>Inner Diameter:</b>	3-5 nm
<b>Length:</b>	0.5-2 $\mu\text{m}$ $\sim 50 \mu\text{m}$
<b>SSA:</b>	>500 $\text{m}^2/\text{g}$
<b>Tap Density:</b>	0.15 $\text{g}/\text{cm}^3$
<b>True Density:</b>	$\sim 2.1 \text{ g}/\text{cm}^3$
<b>EC:</b>	>100 S/cm

### Testing pictures

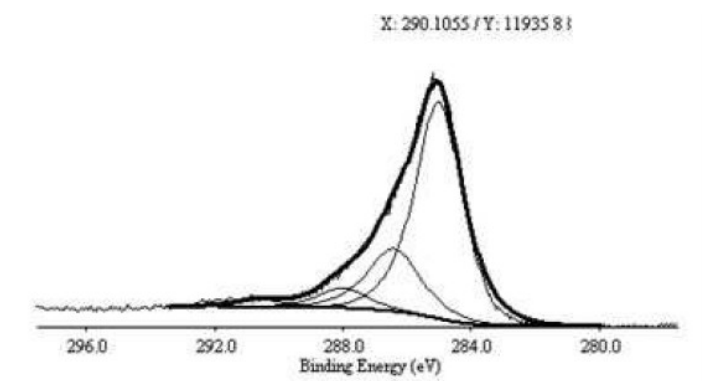


SEM Image (1) of ACS Material Purified MWNTs-COOH (Length =  $\sim 50 \mu\text{m}$ )



Scanning Electron Microscopy (SEM)

SEM Image (2) of ACS Material Purified MWNTs-COOH (Length = ~50  $\mu\text{m}$ )



XPS

XPS Spectrum of ACS Material Purified MWNTs-COOH (Length = ~50  $\mu\text{m}$ )

### 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), nanoprobes for STM, AFM, and EFM tips, nanolithography, reinforcements in composites, *etc.*

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