



## Technical Data Sheet

# ACS Material Purified Hydroxylate Multi-Walled Carbon Nanotubes (MWNTs-OH, 30-50 nm)

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#### **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)

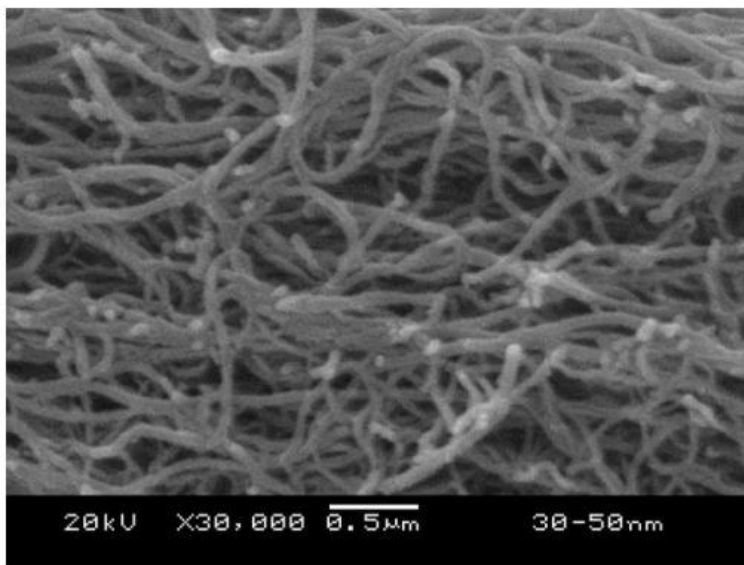
Revision: 010818

## 1. Preparation Method

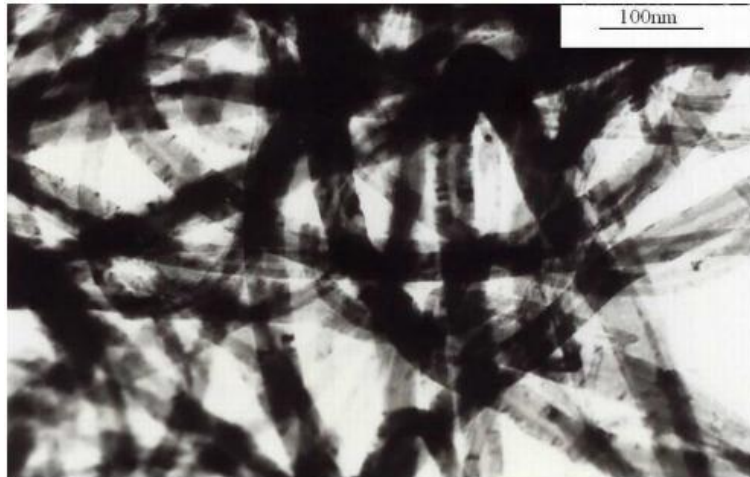
Chemical Vapor Deposition (CVD) Method

## 2. Characterizations

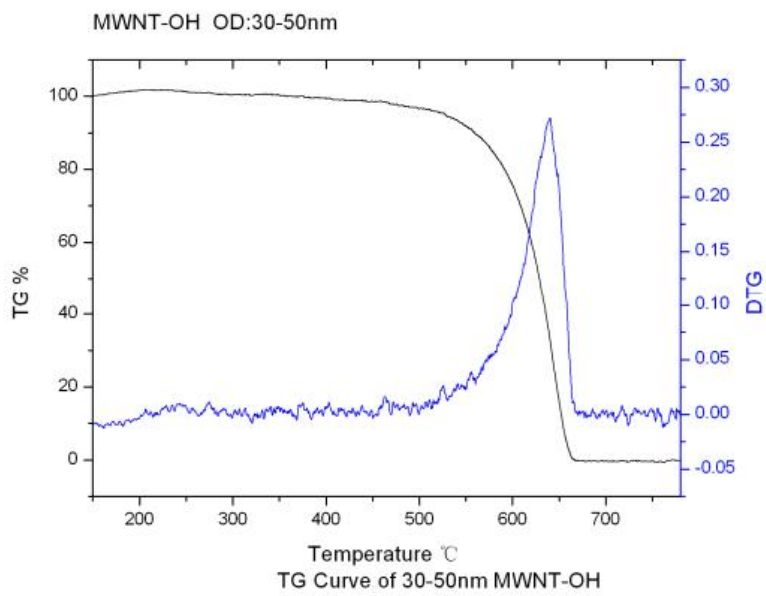
<b>Purity:</b>	>95%
<b>-OH Content:</b>	1.06 wt.%
<b>Color:</b>	Black
<b>Outer Diameter:</b>	30-50 nm
<b>Inner Diameter:</b>	5-12 nm
<b>Length:</b>	<10 $\mu\text{m}$
<b>SSA:</b>	>60 $\text{m}^2/\text{g}$
<b>Tap Density:</b>	0.22 $\text{g}/\text{cm}^3$
<b>True Density:</b>	$\sim 2.1 \text{ g}/\text{cm}^3$
<b>EC:</b>	>100 S/cm



SEM Image of ACS Material Purified MWNTs-OH (Length <10  $\mu\text{m}$ )



TEM Image of ACS Material Purified MWNTs-OH (Length <math><10 \mu\text{m}</math>)



TG Curve of ACS Material Purified MWNTs-OH (Length <math><10 \mu\text{m}</math>)

## Certificate of Analysis

Components	Contents (%)
C	97.37
Cl	0.20
Fe	0.55
Ni	1.86
S	0.02

Analysis Method: Energy Dispersive X-ray Spectroscopy

EDS Analysis of ACS Material Purified MWNTs-OH (Length <10  $\mu\text{m}$ )

### 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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