Specification Sheet

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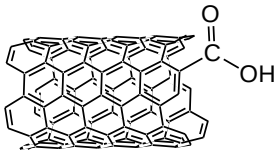
P3-SWNT

Product Description: Purified SWNTs with 1– 3 atomic% carboxylic acid groups**,** which can be derivatized with a variety of functional groups.

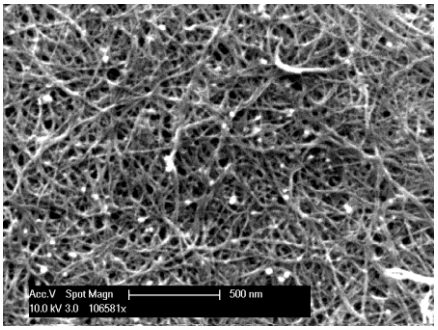


Carbonaceous Purity*:	*>90%*
Metal Content **:	*5 – 7%*
Typical Bundle Length:	*500 nm –1.5 μm*
Typical Bundle Diameter:	*4 – 5 nm*
Typical Diameter of Individual SWNT:	*1.55 ± 0.1 nm*

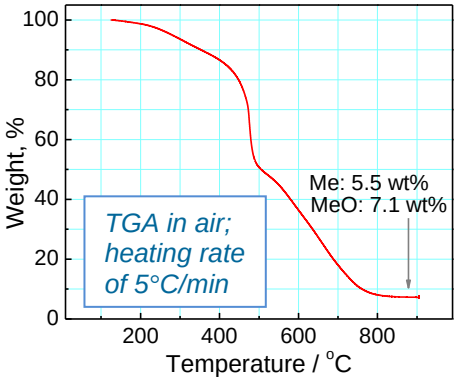
Dispersibility*: **in DMF** – *1.0 mg/mL;* **in water** – *0.1 mg/mL*

* Determined according to procedure described in *Nano Lett.* **2003**, *3*, 309-314; and NIST Recommended Practice Guide "Measurement Issues in Single Wall Carbon Nanotubes": **http://www.nist.gov/customcf/get_pdf.cfm?pub_id=852726**
** Weight % estimated from the residual of the thermal gravimetric analysis (TGA) in air at 900°C, corrected for metal oxide.
*** From solution phase NIR spectroscopy

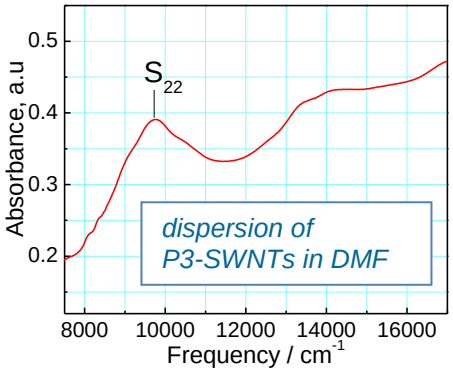
Scanning Electron Microscopy



Thermogravimetric Analysis



Near Infrared Spectroscopy



Areas of applications:

- Thin Film Transparent Conducting Coating
- Organic LEDs and Solar Cells
- Fuel Cells
- Supercapacitors and Batteries
- Nanoelectronics & Optoelectronics
- Inkjet Printing
- Biomedicine
- Structural Composites

Selected References:

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3. Tung, V. C.; Chen, L.M.; Allen, M.J.; Wassei, J.K.; Nelson, K.; Kaner, R.B.; Yang, Y., Low-Temperature Solution Processing of Graphene-Carbon Nanotube Hybrid Materials for High-Performance Transparent Conductors. *Nano Lett.* **2009**, *9*, 1949.
4. Trancik, J. E.; Barton, S. C.; Hone, J. Transparent and Catalytic Carbon Nanotube Films. *Nano Lett.* **2008** *8*, 982.
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6. Ramesh, P.; Itkis, M. E.; Tang, J. M.; Haddon, R. C. SWNT-MWNT Hybrid Architecture for Proton Exchange Membrane Fuel Cell Cathodes. *J. Phys. Chem. C* **2008**, *112*, 9089.
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