

Specification Sheet

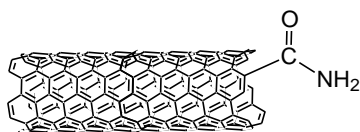


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P9-SWNT

Product Description: SWNTs covalently functionalized with amide groups



Carbonaceous Purity *:	>90%
Metal Content **:	5 – 8%
Typical Bundle Length:	700 nm – 1.0 μm
Typical Bundle Diameter:	4 – 6 nm
Typical Diameter of Individual SWNT:	1.55 ± 0.1 nm

Dispersibility*:** Can be dispersed in DMF, alcohols and acetone by ultrasonication producing dispersions with concentration in the range of 0.5 – 1.0 mg/mL (water – 1mg/mL; DMF– 0.5 mg/mL; THF and acetone. < 0.1 mg/mL)

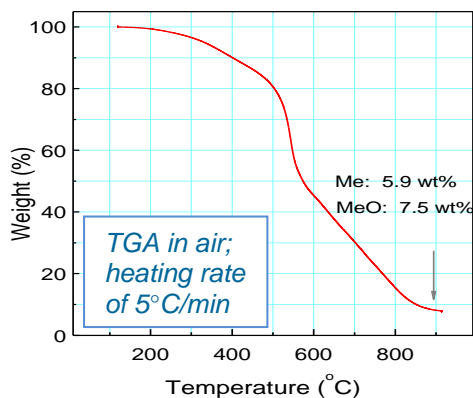
* The purity refers to the P3-SWNT material used for the functionalization and determined according to procedure described in *Nano Lett.* 2003, 3, 309-314; and NIST Recommended Practice Guide "Measurement Issues in Single Wall Carbon Nanotubes":

http://www.nist.gov/customcf/get_pdf.cfm?pub_id=852726

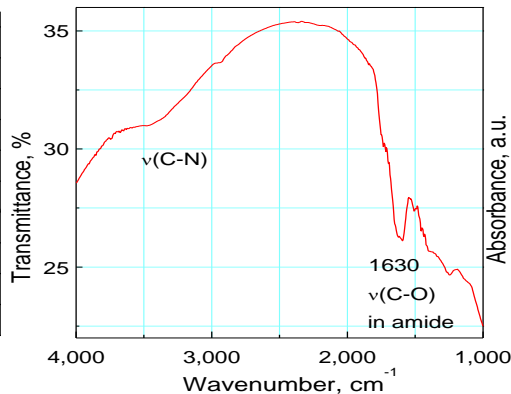
** Weight % estimated from the residual of the thermal gravimetric analysis (TGA) in air at 900°C, corrected for metal oxide.

*** From solution phase NIR spectroscopy

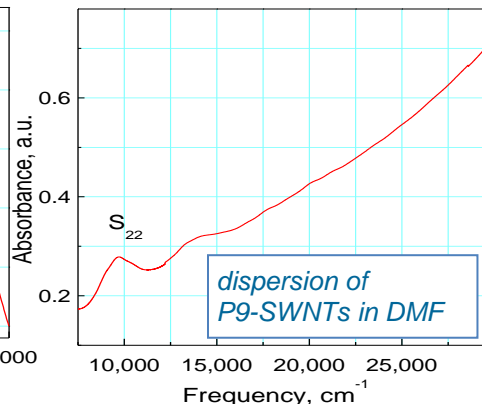
Thermogravimetric (TGA) Analysis



Mid IR Spectrum



Near Infrared (NIR) Spectrum



Areas of applications:

- Composites
- Sensors

Selected References:

Bekyarova, E.; Kalinina, I.; Sun, X.; Shastry, T.; Worsley, K.; Chi, X.; Itkis, M. E.; Haddon, R. C. Chemically Engineered Single-Walled Carbon Nanotube Materials for the Electronic Detection of Hydrogen Chloride. *Adv. Mater.* **2010**, 22, 848.

Gao, J.; Zhao, B.; Itkis, M. E.; Bekyarova, E.; Hu, H.; Kranak, V.; Yu, A.; Haddon, R. C. Chemical Engineering of the Single-Walled Carbon Nanotube-Nylon 6 Interface. *J. Am. Chem. Soc.* **2006**, 128, 7492.

Jacobs, Ch. B.; Vickrey, T. L.; Venton, B. J. Functional groups modulate the sensitivity and electron transfer kinetics of neurochemicals at carbon nanotube modified microelectrodes, *Analyst* **2011**, 136, 3557.