Specification Sheet

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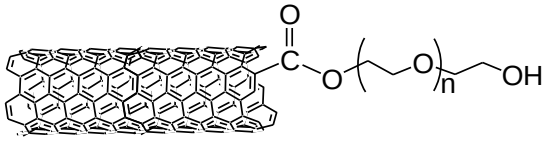
P7-SWNT

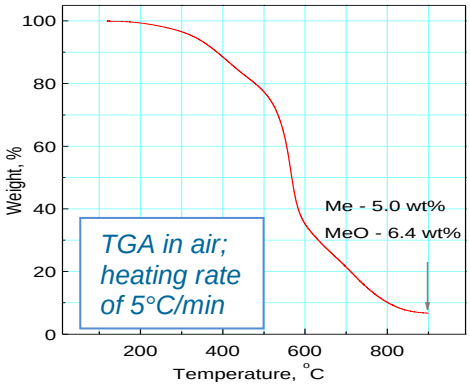
Product Description: Water Soluble SWNTs covalently functionalized with polyethyleneglycol (PEG).



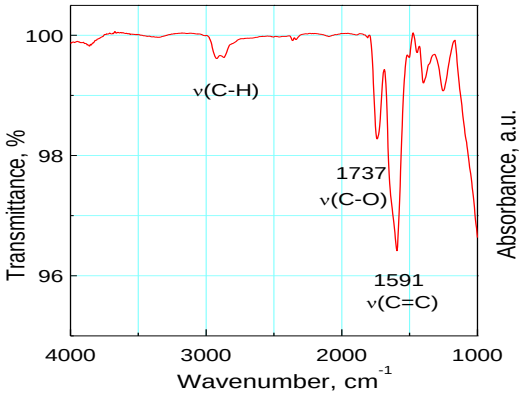
Molecular Weight of PEG:	*~600*
Polymer type	*linear polymer*
Weight Content of SWNT:	*80% ± 10 wt%*
Weight Content of PEG:	*20% ± 10 wt%*
Metal Content *:	*4 - 6%*
Typical Bundle Length:	*500 – 600 nm*
Typical Bundle Diameter:	*4 – 5 nm*
Typical Diameter of Individual SWNT:	*1.55 ± 0.1 nm*
Dispersibility in water:**	*up to 5 mg/mL*

* 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

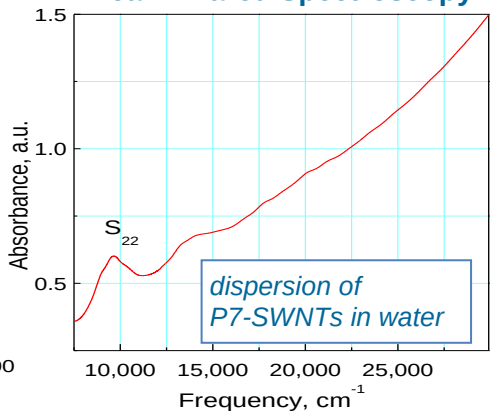
Thermogravimetric Analysis



Mid-IR Spectroscopy



Near Infrared Spectroscopy



Areas of applications:

- Biomedical research
- Structural composites
- Sensors

Selected References:

Zhao, B.; Hu, H.; Yu, A.; Perea, D.; Haddon, R. C. Synthesis and characterization of water soluble single-walled carbon nanotube graft copolymers. *J. Am. Chem. Soc*. **2005**, *127*, 8197.

Blighe, M. B.; Blau, W. J.; Coleman, J. N, Towards tough, yet stiff, composites by filling an elastomer with single-walled nanotubes at very high loading levels. *Nanotechnology* **2008**, *19*, 415709.

Roman, J. A.; Niedzielko, T. L.; Haddon, R. C.; Parpura, V.; Floyd, C. L., Single-walled carbon nanotubes chemically functionalized with polyethylene glycol promote tissue repair in a rat model of spinal cord injury *J. Neurotrama* **2011**, *28*, 2349.

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