

Specification Sheet

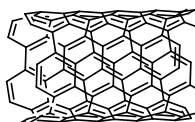


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AP-SWNT

Product Description: Electric arc (EA) SWNTs synthesized using Ni/Y catalyst, with a narrow diameter distribution. This material has the highest purity of any commercially available EA AP-SWNTs



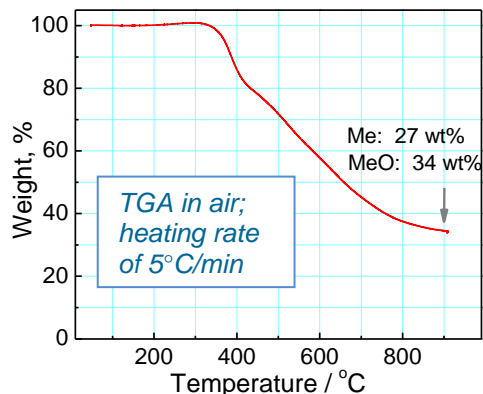
Carbonaceous Purity*:	60 – 70%
Metal Content **:	< 30%
Typical Bundle length:	1 – 5 μm
Typical Bundle Diameter:	2 – 10 nm
Typical Diameter of Individual SWNT:	$1.55 \pm 0.1 \text{ nm}$
Dispersibility*** in DMF:	0.05 mg/mL

* 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

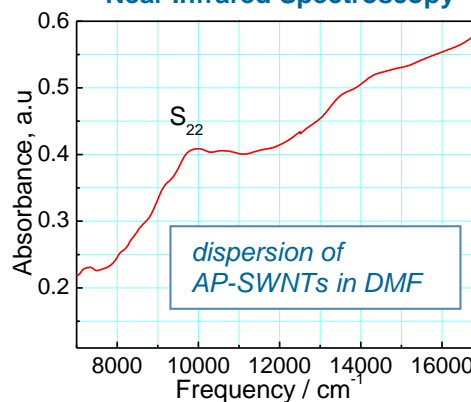
** Weight % estimated from the residual of the thermal gravimetric analysis (TGA) in air at 900°C, corrected for metal oxide.

*** From solution phase NIR spectroscopy

Thermogravimetric Analysis



Near Infrared Spectroscopy



Areas of applications:

- Thin film transparent conducting coating
- Separation of metallic and semiconducting SWNTs
- Nanostructured composites
- Nanoelectronics and Photonics
- Sensors
- Electromagnetic shielding

Selected References:

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2. Blanch, A. J.; Lenahan, C. E.; Quinton, J. S., Parametric analysis of sonication and centrifugation variables for dispersion of single walled carbon nanotubes in aqueous solutions of sodium dodecylbenzene sulfonate, *Carbon* **2011**, 49, 5213
3. Yu, A.; Su, C.C. L.; Roes, I.; Fan, B.; Haddon, R. C., Gram-scale preparation of surfactant-free, carboxylic acid groups functionalized, individual single-walled carbon nanotubes in aqueous solution. *Langmuir* **2010**, 26, 1221.
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5. Itkis, M. E.; Perea, D.; Niyogi, S.; Love, J.; Tang, J.; Yu, A.; Kang, C.; Jung, R.; Haddon, R. C., Optimization of the Ni-Y composition in bulk electric arc synthesis of single-walled carbon nanotubes by use of near-infrared spectroscopy. *J. Phys. Chem. B* **2004**, 108, 12770.