

TECHNICAL DATA SHEET

Standard Multi-Walled Carbon Nanotube Powders (Pristine)

Product codes: 030101 · 030102 · 030103 · 030104 · 030106 · 030107

Revision 2026-10

Description

Pristine multi-walled carbon nanotube (MWCNT) powders made by catalytic chemical vapor deposition (CCVD) and purified with concentrated acid chemistry. Six outer-diameter grades from <8 nm to 50-80 nm share the same purity (>98 wt%), ash (<1.5 wt%) and electrical conductivity (>100 S/cm). Diameter sets surface area, which falls from 500 m²/g at <8 nm to 60 m²/g at 50-80 nm. The product pages list paints, polymers and epoxies among typical uses.

Specifications

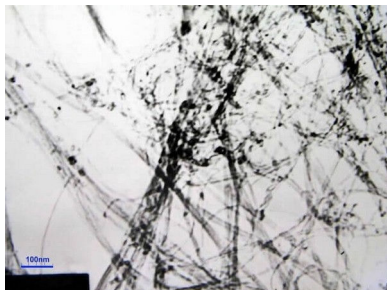
Property	8 nm	8-15 nm	10-20 nm	20-30 nm	30-50 nm	50 nm
SKU	030101	030102	030103	030104	030106	030107
Product ID	167	169	171	173	176	178
Outer diameter (nm)	<8	8-15	10-20	20-30	30-50	50-80
Inside diameter (nm)	2-5	3-5	3-5	5-10	5-10	5-10
Length (μm)	10-30	10-50	10-30	10-30	10-20	10-20
Purity (wt%)	>98	>98	>98	>98	>98	>98
Ash (wt%)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Specific surface area (m ² /g)	500	233	233	110	60	60
Electrical conductivity (S/cm)	>100	>100	>100	>100	>100	>100
Bulk density (g/cm ³)	0.27	0.15	0.22	0.28	0.28	0.18
True density (g/cm ³)	~2.1	~2.1	~2.1	~2.1	~2.1	~2.1
Characterization	TEM micrographs on product pages (below); ash (residue) <1.5 wt%; true density ~2.1 g/cm ³ . Raman IG/ID and TGA onset/residue: not published.					

Form: pristine (no added functionality). Appearance and color are not published on the product pages.

Grade Selection

- **<8 nm (030101):** highest surface area (500 m²/g) with 10-30 μm length.
- **8-15 nm (030102) and 10-20 nm (030103):** 233 m²/g; 8-15 nm offers the longest tubes in the family (10-50 μm), 10-20 nm 10-30 μm.
- **20-30 nm (030104):** 110 m²/g with a wider inner diameter (5-10 nm) and 0.28 g/cm³ bulk density.
- **30-50 nm (030106) and 50-80 nm (030107):** 60 m²/g, 10-20 μm length; larger diameter grades for bulk reinforcement and conductive fill where surface area is secondary.
- **Related families:** short, COOH, OH, 20 nm >99 wt% and graphitized grades are covered in their own CT-MWCNT TDS documents.

Representative Data



TEM, <8 nm grade (030101, ID 167). Scale bar 100 nm.



TEM, 10-20 nm grade (030103, ID 171). Scale bar 100 nm.



TEM, 50-80 nm grade (030107, ID 178). Scale bar 100 nm.

Micrographs are the images published on the cheaptubes.com product pages; instrument and imaging conditions are not stated.

Raman (IG/ID) and TGA (onset, residue) data are not published on the product pages for this family and are not shown here. Application loading data are not published; request application notes at sales@cheaptubes.com.

Storage and Handling

Store sealed, dry, at room temperature. Use local exhaust ventilation and respiratory protection when handling dry powder; see SDS. Disperse with surfactant (PVP, SDS or SDBS for aqueous systems) and high-shear mixing or sonication; oxygen-bearing groups aid wetting in water but do not make the powder water soluble.

Documentation

Values are representative of typical production and do not constitute a lot-specific guarantee. A lot-specific Certificate of Analysis (CoA) ships with each order.

Safety Data Sheet available at cheaptubes.com/nanomaterial-msds-safety-sheets.

Application results depend on formulation, equipment and process conditions; confirm with your own trials. Specifications reflect the product pages at cheaptubes.com as of October 2026. Entries marked [not specified] are not published for that grade; contact sales@cheaptubes.com.