

TECHNICAL DATA SHEET

Short Multi-Walled Carbon Nanotube Powders (Pristine, OH and COOH)

Product codes: 030401 to 030407 (pristine) · 03040201 to 03040207 (OH) · 03040301 to 03040307 (COOH)

Revision 2026-10

Description

Short multi-walled carbon nanotube (MWCNT) powders made by CCVD, purified with concentrated acid chemistry and shortened by milling to 0.5-2.0 μm length. Eighteen grades cover six outer-diameter ranges in three surface conditions: pristine, OH functionalized and COOH functionalized (functionalized by concentrated acid chemistry). All grades are >98 wt% purity with <1.5 wt% ash and >100 S/cm electrical conductivity.

Specifications

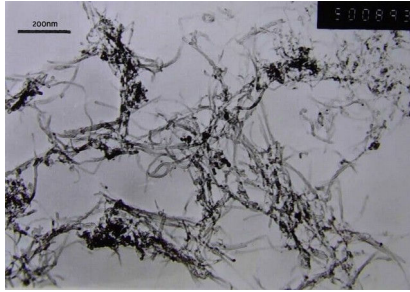
Surface	SKU	Prod. ID	OD (nm)	ID (nm)	Length (μm)	SSA (m^2/g)	Bulk dens. (g/cm^3)
Pristine	030401	205	<8	2-5	0.5-2.0	500	0.27
Pristine	030402	207	8-15	3-5	0.5-2.0	233	0.15
Pristine	030403	209	10-20	3-5	0.5-2.0	233	0.22
Pristine	030404	211	20-30	5-10	0.5-2.0	110	0.28
Pristine	030406	213	30-50	5-10	0.5-2.0	60	0.22
Pristine	030407	215	50-80	5-10	0.5-2.0	60	0.18
OH	03040201	219	<8	2-5	0.5-2.0	500	0.27
OH	03040202	221	8-15	3-5	0.5-2.0	233	0.15
OH	03040203	223	10-20	3-5	0.5-2.0	233	0.22
OH	03040204	225	20-30	5-10	0.5-2.0	110	0.28
OH	03040206	227	30-50	5-10	0.5-2.0	60	0.22
OH	03040207	229	50-80	5-10	0.5-2.0	60	0.18
COOH	03040301	233	<8	2-5	0.5-2.0	500	0.27
COOH	03040302	235	8-15	3-5	0.5-2.0	233	0.15
COOH	03040303	237	10-20	3-5	0.5-2.0	233	0.22
COOH	03040304	239	20-30	5-10	0.5-2.0	110	0.28
COOH	03040306	241	30-50	5-10	0.5-2.0	60	0.22
COOH	03040307	243	50-80	5-10	0.5-2.0	60	0.18
Characterization	TEM micrographs of pristine short grades on product pages (below); ash (residue) <1.5 wt%; true density $\sim 2.1 \text{ g}/\text{cm}^3$. Raman IG/ID and TGA onset/residue: not published.						

All 18 grades: purity >98 wt%, ash <1.5 wt%, electrical conductivity >100 S/cm, true density $\sim 2.1 \text{ g}/\text{cm}^3$. Functional group content is not published for the short OH and COOH grades. SSA by product page; method not stated.

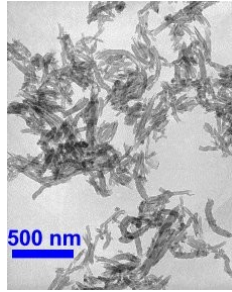
Grade Selection

- **Pristine short (030401 to 030407):** shortened by milling; no added surface groups. Use with surfactant (PVP, SDS or SDBS) in aqueous systems.
- **Short OH (03040201 to 03040207) and Short COOH (03040301 to 03040307):** choose OH or COOH groups when dispersing in aqueous solvents or aqueous mixtures, or when a host matrix benefits from surface groups. COOH is also used in paints, polymers, epoxies and inks per the product pages.
- **By diameter:** <8 nm gives 500 m^2/g ; 8-15 nm and 10-20 nm give 233 m^2/g ; 20-30 nm gives 110 m^2/g ; 30-50 nm and 50-80 nm give 60 m^2/g .
- **Longer tubes:** 10-50 μm pristine, OH and COOH grades are listed in the Standard, OH and COOH TDS documents.

Representative Data



TEM, short pristine <8 nm (030401, ID 205). Scale bar 200 nm.



TEM, short pristine 10-20 nm (030403, ID 209). Scale bar 500 nm.



TEM, short pristine 50-80 nm (030407, ID 215). Scale bar 700 nm.

Micrographs are the images published on the cheaptubes.com product pages; instrument and imaging conditions are not stated. Magnifications differ between images (scale bars as shown). Micrographs shown are of the pristine short grades.

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.