Multi-Walled Carbon Nanotubes, 10-20 nm-PVP-NMP-95%
PRODUCT DATA SHEET

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Description

Multi-walled carbon nanotubes (MWCNTs) are materials made of multiple layers of carbon nanotubes stacked on top of each other, each layer can be viewed as a single-walled carbon nanotube. This unique structure gives multi-walled carbon nanotubes a range of excellent physical and chemical properties, including high strength, high toughness, good electrical conductivity and chemical stability. MWCNTs are widely used in many fields. In industries such as coatings, rubber, plastics, inks and batteries, multi-walled carbon nanotubes are often used as reinforcement materials due to their excellent mechanical properties and chemical stability. In addition, it is used in electrochemical sensors and fuel cells as a substrate or functionalized material to improve the performance and efficiency of devices. Although multi-walled carbon nanotubes have many advantages, there are also some challenges, such as easy aggregation and difficulty in dispersing. These problems need to be overcome with proper surface treatment and composite material design. In short, multi-walled carbon nanotubes are a kind of nanomaterial with wide application prospect, and their unique structure and properties make them of great value in the field of high-tech. Future studies will further explore its application potential in various fields and address existing technical challenges.

Abvigen offers high quality multi-walled carbon nanotubes, 10-20 nm-PVP-NMP-95%. The product has high repeatability between batches, which can meet the needs of various customers for personalized materials such as research and development, testing and production.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Characteristics

Type: Multi-Walled Carbon Nanotubes, 10-20 nm-PVP-NMP-95%

Size: 1 g

Purity: > 95 wt% (carbon nanotubes) (from TGA & TEM)

> 97 wt% (carbon content)

Outside diameter: 10-20 nm (from HRTEM, Raman)

Inside diameter: 5-10 nm

Length: 10-30 μm (TEM)

Coating: PVP

Buffer: NMP liquids

SSA: > 200 m^2/g (BET)

Color: Black

Ash: <1.5wt% (TGA)

Electrical conductivity: >100 s/cm

Tap density: 0.22 g/cm^3

True density: ~2.1 g/cm^3

Manufacturing method: CVD

Advantages

Excellent mechanical properties: very high strength and toughness.

Excellent electrical properties: Can show good electrical conductivity, depending on length-diameter ratio, structure and preparation method.

Good thermal performance: high thermal conductivity, can effectively transfer heat.

Large specific surface area: This makes it a potential application in adsorption, catalysis and other fields.

Applications

(1) additives in polymers; (2) catalysts; (3) electron field emitters for cathode ray lighting elements; (4) flat panel display; (5) gas-discharge tubes in telecom networks; (6) electromagnetic-wave absorption and shielding; (7) energy conversion; (8) lithium-battery anodes; (9) hydrogen storage; (10) nanotube composites (by filling or coating); (11) nanoprobes for STM, AFM, and EFM tips; (12) nanolithography;

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(13) nanoelectrodes; (14) drug delivery; (15) sensors; (16) reinforcements in composites; (17) supercapacitor

Ordering Information

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