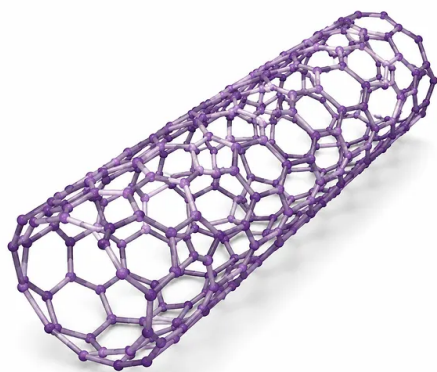


High Purity Single Walled And Multi Walled Carbon Nanotubes For Advanced Battery And Nanotechnology Research

Item Number: FZ26



Introduction

Accelerate energy storage and materials innovation with ultra-pure single-walled and multi-walled carbon nanotubes featuring exceptional electrical conductivity, robust tensile strength up to 800 GPa, and superior thermal transport for high-performance battery anodes, advanced composites, and next-generation nanotechnology research applications today.

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Application	Description	Key Benefit
Lithium-Ion Battery Anodes	Formulates conductive scaffolds within silicon, graphite, or composite anode slurries to accommodate active material volume expansion during cycling.	Bridges active particles, prevents mechanical pulverization, decreases charge-transfer resistance, and extends battery cycle life.
Solid-State Battery Cathodes	Blended into solid-state composite cathodes and thick-film electrodes to establish persistent 3D electron pathways alongside solid electrolytes.	Enhances rate capability, reduces internal cell impedance, and maintains structural integrity during high-pressure calendaring.
Conductive Polymers and Masterbatches	Compounded into engineering thermoplastics (e.g., PEEK, PVDF, Epoxy) to impart antistatic, electrostatic discharge (ESD), and electromagnetic interference (EMI) shielding.	Achieves the electrical percolation threshold at ultra-low weight fractions without compromising base polymer processability or surface finish.
High-Performance Thermal Interface Materials (TIM)	Dispersed into thermal greases, phase-change pads, and structural adhesives for semiconductor packaging and power electronic modules.	Maximizes through-plane and in-plane thermal conductivity, lowering junction temperatures and preventing localized thermal throttling.
Structural Metal and Ceramic Composites	Incorporated as nanofiber reinforcement in light metal alloys (aluminum, titanium) and structural ceramics via powder metallurgy and sintering.	Dramatically improves fracture toughness, tensile yield strength, and resistance to thermal shock and fatigue degradation.
Supercapacitor and Electrochemical Sensors	Applied as active electrode coatings or support frameworks for functionalized redox species and ultra-high-rate capacitive energy storage.	Yields high electroactive surface areas, accelerated ion transport kinetics, and superior electrochemical capacitance retention.
Transparent Conductive Coatings and Flexible Electronics	Formulated into low-haze, conductive inks for flexible printed circuits, touch displays, and wearable electronic sensors.	Delivers high optical transparency combined with mechanical flexibility, maintaining conductivity under repeated bending and flexing.

Parameter	Single-Walled Carbon Nanotubes (FZ26-SWCNT)	Multi-Walled Carbon Nanotubes (FZ26-MWCNT)
Product Item Number	FZ26-SWCNT	FZ26-MWCNT
Material Structure	Single-layer cylindrical graphene sheet	Multi-layer concentric graphene sheets
Purity	≥99.7%	≥99.7%
Outer Diameter	0.75 ~ 3 nm	2 ~ 30 nm
Length	1 ~ 50 μm	0.1 ~ 50 μm
Tensile Strength	800 GPa	50 ~ 200 GPa

Parameter	Single-Walled Carbon Nanotubes (FZ26-SWCNT)	Multi-Walled Carbon Nanotubes (FZ26-MWCNT)
Number of Walls / Layers	1 Layer	2 ~ 50 Layers
Interlayer Spacing	N/A	0.34 ± 0.01 nm
Primary Functional Properties	Ultra-high electrical conductivity, superior thermal transport, exceptional tensile reinforcement	High electrical conductivity, high thermal conductivity, matrix toughness enhancement
Packaging Specification	1 g / bottle	1 g / bottle
Physical Form	Black nanopowder	Black nanopowder