

NMC 523 Cathode Material

Catlog Number: BMCM-0040

• Description

A versatile ternary material balancing capacity, safety, and cost, widely used in power tools and light electric vehicle applications.

• Basic Information

Chemical Formula: $\text{LiNi}_0.5\text{Mn}_0.3\text{Co}_0.2\text{O}_2$

Appearance: Dark Grey Powder

Molecular Weight: 96.65 g/mol

D50 Particle Size: 8 - 11 μm

Tap Density: $\geq 2.4 \text{ g/cm}^3$

BET Surface Area: 0.2 - 0.6 m^2/g

1st Discharge Capacity: $\geq 170 \text{ mAh/g}$

1st Coulombic Efficiency: $\geq 90\%$

pH Value: ≤ 11.2

Moisture Content: $\leq 0.05\%$

Magnetic Impurities: $\leq 50 \text{ ppb}$

Li/Na Content: 7.1 - 7.5%

Ni Content: 29.5 - 31.5%

Mn Content: 16.5 - 18.5%

Co Content: 11.5 - 13.5%

Transition Metals: $\leq 0.005\%$

P Content: N/A

Al Content: N/A

Crystal Structure: Layered Structure

Compaction Density: $\geq 3.5 \text{ g/cm}^3$

Storage Conditions: Dry room storage

Conductivity: $\sim 10^{-4} \text{ S/cm}$


Voltage Range: 3.0 - 4.3 V

Purity: $\geq 99.9\%$

Primary Application: Power tools and e-bikes

Thermal Stability: High

Cycle Life: > 1500 cycles

 For Research or Industrial Raw Materials, Not For Personal Medical Use!