

## NMC 523 (High Voltage)

Catlog Number: BMCM-0025

### • Description

Specially doped NMC 523 optimized for 4.5V operation, providing increased energy density while maintaining the safety profile of mid-nickel ternary.

### • Basic Information

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

Appearance: Black Powder

Molecular Weight: 96.65 g/mol

D50 Particle Size: 8 - 11  $\mu\text{m}$

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

BET Surface Area: 0.2 - 0.4  $\text{m}^2/\text{g}$

1st Discharge Capacity:  $\geq 185 \text{ mAh/g}$

1st Coulombic Efficiency:  $\geq 88\%$

pH Value:  $\leq 11.0$

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: Ni-Mn-Co

Crystal Structure: Layered Structure

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

Storage Conditions: Sealed, dry

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

Voltage Range: 3.0 - 4.5 V

Purity:  $\geq 99.9\%$

Primary Application: Power-type EV, Mobile

Thermal Stability: High

Cycle Life:  $> 1200$  cycles

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