

## NMC 811 (High Performance Single Crystal)

Catlog Number: BMCM-0044

### • Description

Single-crystal NMC 811 powder engineered to eliminate micro-cracks at high voltages, resulting in exceptional cycle life and safety in EV cells.

### • Basic Information

Chemical Formula:  $\text{LiNi}_0.8\text{Mn}_0.1\text{Co}_0.1\text{O}_2$

Appearance: Black Powder

Molecular Weight: 97.3 g/mol

D50 Particle Size: 3 - 5  $\mu\text{m}$

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

BET Surface Area: 0.3 - 0.6  $\text{m}^2/\text{g}$

1st Discharge Capacity:  $\geq 205 \text{ mAh/g}$

1st Coulombic Efficiency:  $\geq 87\%$

pH Value:  $\leq 11.8$

Moisture Content:  $\leq 0.05\%$

Magnetic Impurities:  $\leq 20 \text{ ppb}$

Li/Na Content: 7.1 - 7.5%

Ni Content: 48 - 51%

Mn Content: 5 - 7%

Co Content: 5 - 7%

Transition Metals: Ni-Mn-Co

Crystal Structure: Single Crystal Layered

Compaction Density:  $\geq 3.4 \text{ g/cm}^3$

Storage Conditions: Vacuum, Inert Gas

Conductivity:  $\sim 10^{-3} \text{ S/cm}$

Voltage Range: 2.8 - 4.4 V

Purity:  $\geq 99.9\%$

Primary Application: Long-cycle EVs

Thermal Stability: High

Cycle Life: > 2500 cycles

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