

Tin-Carbon Composite (Sn/C)

Catlog Number: BMAM-0012

• Description

Advanced tin nanoparticles encapsulated in a conductive carbon matrix to mitigate volume expansion while providing superior gravimetric capacity.

• Basic Information

Chemical Formula: Sn/C

Appearance: Black Powder

D50 Particle Size: 5 - 12 μm

Tap Density: $\geq 0.9 \text{ g/cm}^3$

BET Surface Area: 5.0 - 15 m^2/g

1st Discharge Capacity: $\geq 550 \text{ mAh/g}$

1st Coulombic Efficiency: $\geq 82\%$

Carbon Content: 40 - 50 wt%

Active Metal Content: Sn: 50-60%

Ash Content: $\leq 0.20\%$

Moisture Content: $\leq 0.10\%$

pH Value: 6.0 - 8.0

Iron (Fe) Impurity: $\leq 50 \text{ ppm}$

True Density: 3.5 - 4.2 g/cm^3

Compaction Density: $\geq 1.8 \text{ g/cm}^3$

Crystal Structure: Amorphous Matrix

Surface Coating: Carbon

Magnetic Impurities: $\leq 100 \text{ ppb}$

Electronic Conductivity: $\sim 10^1 \text{ S/cm}$

Voltage Range: 0.01 - 2.0 V

Purity: $\geq 99.5\%$

Primary Application: High capacity LIB

Thermal Stability: Moderate

Cycle Life: $\geq 500 \text{ cycles}$

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