

Germanium-Carbon Composite

Catlog Number: BMAM-0048

• Description

Germanium particles dispersed in a carbon matrix to leverage the high lithium diffusivity of Ge while maintaining structural integrity during alloying cycles.

• Basic Information

Chemical Formula: Ge/C

Appearance: Black Powder

D50 Particle Size: 5 - 10 μm

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

BET Surface Area: 15 - 30 m^2/g

1st Discharge Capacity: $\geq 800 \text{ mAh/g}$

1st Coulombic Efficiency: $\geq 85\%$

Carbon Content: 20 - 30 wt%

Active Metal Content: Ge: $\sim 70\%$

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 - 4.0 g/cm^3

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

Crystal Structure: Amorphous/Cubic

Surface Coating: Carbon

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

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

Voltage Range: 0.01 - 1.5 V

Purity: $\geq 99.0\%$

Primary Application: High-rate energy

Thermal Stability: Moderate

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

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