MATERION

ADVANCED
MATERIALS GROUP

Battery Materials

Battery Materials

The Challenge

As diverse technologies emerge that push the boundaries of energy storage, a wide range of specialized battery chemistries are needed to meet the challenge. Few companies have the capabilities to develop, customize and produce the materials necessary for a wide variety of battery anode, cathode and electrolyte applications. It can also prove difficult to locate a firm with the ability to scale laboratory sample sizes to full production quantities.

The Solution

Materion Advanced Materials provides a broad variety of materials and key production capabilities to meet these challenges and help you bring the next breakthrough in inorganic battery material to market.

- Customized manufacturing: synthesis, processing & analysis
- Expertise to produce challenging, custom materials
- Particle size, purity and packaging to meet most stringent requirements
- Reactive gas processing
- Ceramic manufacturing capabilites for PVD materials
- Air and moisture sensitive material manufacturing & processing
- Scaling processes from R&D samples to full production quantities
- Comprehensive chemical & physical characterization
  - Xray Diffraction
  - ICP-OES/ICP-MS/AA/GDMS spectroscopies
  - O, N, C, S Combustion Analysis
  - BET Surface Area
  - Laser Diffraction Particle Size Analysis
  - Ion Selective Electrode
  - TGA/DTA
  - Wet Chemical Analyses

BENEFITS

- Customized materials & particle size
- Batch to batch consistency
- Highly reliable products
- Specialized packaging
- Manufactured to most stringent material requirements

MATERIAL OFFERINGS

High Purity Metals

- Ag, Be, Cu, Co, Fe, Li, etc.

Oxides

- Silver Oxide, Ag_2O
- Aluminum Oxide gamma, Al_2O_3-γ
- Lanthanum Oxide, La_2O_3
- Lanthanum Carbonate, $La_2(CO_3)_3$
- Lithium Oxide, Li_2O
- Lithium Carbonate, Li_2CO_3
- Lithium Cobalt Oxide, $LiCoO_2$
- Lithium Manganese Oxide, $LiMn_2O_4$
- Lithium Phosphate, Li_3PO_4
- Manganese Oxide, MnO_2
- Vanadium Oxide, V_2O_5
- Zirconium Oxide, ZrO_2

Fluorides

- Aluminum Fluoride, AlF_3
- Copper Fluoride, CuF_2
- Iron Fluoride, FeF_2 and FeF_3
- Lithium Fluoride, LiF
- Nickel Fluoride, NiF_2

Sulfides

- Arsenic Sulfide, As_2S_3 and As_2S_5
- Cobalt Sulfide, CoS_2
- Copper Sulfide, CuS and Cu_2S
- Iron Sulfide, FeS_2
- Nickel Sulfide, NiS_2
- Titanium Sulfide, TiS_2

MARKETS/APPLICATIONS

- High reliability medical batteries
- Military/defense
- Aerospace
- Large capacity storage
- Primary / Secondary lithium ion
- Conversion
- Solid state electrolytes

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MATERION CORPORATION
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MATERION ADVANCED MATERIALS GROUP is a global supplier of specialty materials and services. Our offerings include precious & non-precious thin film deposition materials, inorganic chemicals and microelectronic packaging products. In addition, we have related services to meet our customers' requirements for precision parts cleaning, precious and valuable metal reclamation and R&D. We support diverse industries including LED, semiconductor, data storage, solar energy, battery, medical, precision optics and large area glass coating..