



Electro-Rite® Technologies for Lithium-Ion Batteries

Electro-Rite® technologies for Lithium-Ion Batteries (LIBs) are advanced material solutions for inside the battery, designed to improve performance of electrodes, separators and electrolyte components. The Electro-Rite portfolio includes unique binder materials for anodes and separators for improving cell performance. The portfolio also includes dispersants and rheology modifiers that enhance dispersion, viscosity, flow properties and suspension of carbon, graphite, silicon, silicon oxide and ceramic active materials in aqueous slurries for optimal coating applications. Our capabilities exist to deliver enhanced performance for diverse battery applications.

ANODE MATERIALS

Meeting the demands of higher battery performance requires a new set of anode binders to consider. Electro-Rite technologies are unique acrylic chemistries that are compatible and electrochemically stable with various active ingredients (C, Si, SiO_x, graphite). Our anode binders hold the active material together and in contact with the current collectors while providing varying degrees of mechanical flexibility and low swell properties in common carbonate electrolytes. Our technology includes functionality to disperses active particles potentially simplifying your slurry formulations.

Lubrizol is currently working on some experimental anode products. Contact us if you'd like to explore these new technologies with us.

SEPARATOR MATERIALS

Changes in battery form factors requires exploring new materials to optimize separator performance. Electro-Rite® technologies bring a new degree of adhesion and flexibility to choose from for optimizing your battery design.

Our separator products currently include:

- Electro-Rite® BD020 binder
- Electro-Rite® BB002 binder with flexibility
- Electro-Rite® BB003 binder with robust adhesion promotion

PRIMER MATERIALS

Optimizing the adhesion of electrode metallic surfaces to the bulk graphite, carbon, and silicon matrixes are critical for excellent performance. Electro-Rite® technologies bring a new degree of adhesion and flexibility to choose from for your design requirements.

Explore our primer products:

- Electro-Rite® BD020 binder for copper foils (anodes)
- Experimental materials for aluminum and copper foils

AQUEOUS SLURRY ADDITIVES

Stable and consistent slurry performance is key to producing and improving your electrode and separator performance. Electro-Rite technologies are compatible and electrochemically stable with binder materials to provide improved dispersions of active ingredients: including carbon, graphite, silicon, silicon oxide, ceramic, and other active particles. Proven rheology technologies (flow and suspension properties) are available to tailor your aqueous slurry profile to meet your coating demands giving you ultimate control over the quality of your electrode or separator coating process.

Products include:

- Electro-Rite® BD040 dispersant
- Electro-Rite® AL003 rheology modifier

Contact your local Lubrizol representative for more product details.

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