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## **Ashland highlights Aqualon™ and Bondwell™ aqueous binders and Micropure™ EG process solvent to Lithium Ion Battery (LiB) cell manufacturers at Battery Japan**

### **Ashland's high-purity, fiber-free CMCs are the binders of choice for Lithium Ion Batteries**

WILMINGTON, Del. - Ashland Specialty Ingredients, a commercial unit of Ashland Inc. (NYSE: ASH) showcased class-leading anode binder and cathode binder process solvent-technologies at Battery Japan in February.

Aqualon and Bondwell carboxymethylcellulose (CMC) products have been developed to meet the stringent needs of the lithium-ion battery (LiB) market. These products provide effective rheology control, enabling an aqueous process to be used and ensuring efficient coating of the copper foil at high speed. In cell, they are typically used in conjunction with styrene butadiene (SB) latex to improve the binding strength of the active graphite onto the copper collector, thereby ensuring cells survive multiple charge/discharge cycles.

"Ashland is a proven supplier of high-quality CMC binders to lithium-ion cell manufacturers in the Asian region," said Dr Robert Gibbison, global marketing director, Performance Specialties, Ashland Specialty Ingredients. "Ashland is committed to providing world-leading technologies with strategic commitment to developing new-to-the-world additives that meet unmet market needs."

In addition to Aqualon and Bondwell CMC, Ashland will also be promoting the Micropure EG high-purity grade of N-methyl-2-pyrrolidone (NMP). This is used to prepare solutions of polyvinylidene difluoride (PVDF) for use as a cathode binder. Cathode slurries produced with Micropure EG solvent have ideal characteristics for coating on aluminum foil, whilst Micropure EG is also designed to be used in solvent recovery systems.

"Micropure EG solvent is manufactured in a world-class, ISO-accredited plant to meet the exacting standards required in the LiB market," added Gibbison. "Ashland has invested in quality systems to ensure that the low color, low-moisture and low-metal content demanded by the industry are delivered."

Ashland Specialty Ingredients is the No.1 global producer of cellulose ethers and a global leader in vinyl pyrrolidones. It offers industry-leading products, technologies and resources for solving formulation and product-performance challenges. Using natural, synthetic and semi-synthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Ashland Specialty Ingredients offers comprehensive and innovative solutions for today's demanding consumer and industrial applications. Key customers include pharmaceutical companies; makers of personal care products, food and beverages, and cosmetics; manufacturers of paint, coatings and construction materials; oilfield service companies, agrochemical formulators and battery cell manufacturers. See [ashland.com](http://ashland.com) for more information.

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