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## Ashland showcases videos on new battery testing laboratory in multiple languages

WILMINGTON, Del. - Ashland Specialty Ingredients, a commercial unit of Ashland Inc. (NYSE: ASH), has unveiled four videos on the company's new state-of-the-art battery testing laboratory. Narrated separately in Japanese, Korean, Chinese and English, each new video is customized to a key audience in the lithium ion battery industry.

"With these videos, we are making a concerted effort to offer our customers relevant information in the way most accessible to them," said Dr. Robert Gibbison, global marketing director, performance specialties, Ashland Specialty Ingredients. "We want to demonstrate to our customers through our global team of experts that we quite literally speak their language."

With the new Wilmington-based laboratory serving as the backdrop, the videos describe the advantages of lithium ion batteries, Ashland ingredients and in-process benefits. The videos also outline the capabilities that enable the company to undertake the same battery testing protocols as its customers. The videos "opened" at Battery Japan 2014, February 26 - 28, and on the updated Ashland web site, <a href="https://www.ashland.com/lib">www.ashland.com/lib</a>.

During the show, Ashland also showcased a range of Aqualon<sup>™</sup> and Bondwell<sup>™</sup> wasteruble carboxymethylcellulose (CMC)-based anode binders featuring optimized physical and electrochemical characteristics. The company highlighted industry-leading Micropure<sup>™</sup> EG grade of-Nhethyl-2-pyrrolidone (NMP), a high-purity process solvent essential when using polyvinylidene fluorine (PVDF) binder on the cathode.

In addition to hosting the videos, the improved Ashland web site features information on the role of lithium ion batteries, Ashland binders and NMP in consumer electronics, electric vehicles and energy storage systems. It also features an updated compilation of frequently asked questions.

Ashland's new lab is equipped with electrode-coating and slurry dispersion capabilities, coin cell testers to measure battery cycle life with different battery ingredients, equipment to analyze impedance, and a dry box for building lithium ion cells in controlled environments.

"We've not only hired experts from around the world who understand the lithium ion battery technology and design of new materials, but our state-of-the-art laboratory enables us to use the data we generate to explain the lithium ion battery and ingredient benefits to our customers and to bring new products to the industry," said Dr. Alan Goliaszewski, R&D manager, Ashland Specialty Ingredients.

Goliaszewski added that Ashland is uniquely qualified to help customers improve their battery technologies and the performance of their lithium ion batteries.

"We have a very wide range of polymer technology that we can apply to lithium ion batteries, not to mention the testing and development capabilities for the lithium ion battery industry," he said.

## **About Ashland Specialty Ingredients**

Ashland Specialty Ingredients offers industry-leading products, technologies and resources for solving formulation and product performance challenges in key markets including personal care, pharmaceutical, food and beverage, coatings and energy. 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.

## **About Ashland Inc.**

In more than 100 countries, the people of Ashland Inc. (NYSE: ASH) provide the specialty chemicals, technologies and insights to help customers create new and improved products for today and sustainable solutions for tomorrow. Our chemistry is at work every day in a wide variety of markets and applications, including architectural coatings, automotive, construction, energy, food and beverage, personal care, pharmaceutical, tissue and towel, and water treatment. Visit <a href="mailto:ashland.com">ashland.com</a> to see the innovations we offer through our four commercial units - Ashland Specialty Ingredients, Ashland Water Technologies, Ashland Performance Materials and Ashland Consumer Markets.

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