

Ashland increasing pharmaceutical technologies capabilities to address global drug development and bioavailability enhancement trends

Newest pharmaceutical center of excellence opens in Wilmington

WILMINGTON, Del. - On September 30, Ashland Specialty Ingredients, a commercial unit of Ashland Inc. (NYSE:ASH), opened a state-of-the-art pharmaceutical center of excellence in Wilmington. The new facility will focus on drug development and bioavailability enhancement, and expands Ashland's global network of pharmaceutical research and development centers. The facility also offers formulation and contract development for solid dispersions and oral solid-dosage forms. To support early stage proof-of concept-studies, capabilities include spray drying, hot-melt extrusion and potent-compound processing suites.

"A key commitment is to be close to our customers. One way of accomplishing this is by investing in leading-edge facilities and laboratories," said Luis Fernandez-Moreno, president, Ashland Specialty Ingredients. "These investments help drive growth by enabling us to deliver innovative solutions to customers and improve our competitive position. With this facility, we will provide our North American customers with unparalleled expertise and service in enhancing their pharmaceutical formulations."

"Research and development (R&D) dedicated to drug development and bioavailability enhancement is essential to the future success of the pharmaceutical manufacturing industry," said Jim Mish, group vice president, Consumer Specialties, Ashland Specialty Ingredients. "Emerging manufacturing processes, such as continuous manufacturing by spray drying or hot-melt extrusion, is one component of this equation. Excipients science is another. At our new center of excellence, we will be combining our expertise in process technology along with our knowledge in materials science to further support the quality, safety and efficiency of oral solid-dosage forms."

"The Ashland Pharmaceutical Specialties research and development team takes a customer-focused approach to R&D. Roughly 70 percent of our current R&D projects involve working directly with our customers on a collaborative basis," explained Tom Dürig, senior director, Global Pharmaceutical R&D, Consumer Specialties, Ashland Specialty Ingredients. "We provide customized training on product applications to our customers. Additionally, our team can provide technical assistance for specific requests from customers. Superior technical service forms an important part of our offering and this distinguishes Ashland from our competitors. The products we manufacture are supported by a global network of research and application scientists and technically trained salespeople."

The grand opening event in Wilmington was followed by an educational symposium featuring leaders in drug delivery and bioavailability-enhancement enabling technologies and a pharmaceutical equipment vendor showcase. The speakers included:

- Andrew Birkmire, process development manager, GEA Inc.;
- Dr. Sid Bhoopathy, chief operating officer, Absorption Systems;
- Dr. Craig Mckelvey, distinguished scientist, Solubilzation Center of Excellence, Merck & Co.;
- Robert Meyer, associate director, Engineering, Pharmaceutical Commercialization Technology, Merck & Co.;
- Dr. Sarah J. Nicholson, principal scientist, Drug Product Science and Technology (Portfolio Enabling Technology), Bristol-Meyers Squibb Company;
- Dr. Michael Repka, chair and professor, Pharmaceutical Sciences, University of Mississippi;
- Dr. George Sienkiewicz, senior manager, Solid Oral Dose Technical Services (SOD-TS), Pfizer, Inc;
- Priscilla Zawislak, manager, Global Regulatory Affairs, Ashland Inc.; and
- Dr. Lin Zhu, manager, Technical Section, AbbVie.

Ashland Specialty Ingredients offers comprehensive and innovative solutions for today's global pharmaceutical and nutraceutical industries. Having served these markets since the 1950s, Ashland offers an unparalleled excipient portfolio and a global R&D team focused on all of the major formulation trends. The opening of this pharmaceutical center of excellence in Wilmington is part of the company's commitment to serving this need and reinforcing its market leadership as a specialty chemical company.

This center of excellence expands Ashland's global network of R&D and technical support facilities dedicated to the advancement of consumer products. It is another major investment following the opening of a pharmaceutical center of excellence in Hyderabad, India, earlier this year and a personal care center of excellence in Mumbai, India, in 2012. Ashland Specialty Ingredients has 10 centers of excellence around the world.

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. Key customers include pharmaceutical companies; makers of personal care products, food and beverages, and cosmetics; manufacturers of paint, coatings and construction materials; and oilfield service companies.

About Ashland Inc.

Ashland Inc. (NYSE: ASH) is a global leader in providing specialty chemical solutions to customers in a wide range of consumer and industrial markets, including architectural coatings, automotive, construction, energy, food and beverage, personal care and pharmaceutical. Through our three commercial units - Ashland Specialty Ingredients, Ashland Performance Materials and Valvoline - we use good chemistry to make great things happen for customers in more than 100 countries. Visit <u>ashland.com</u> to learn more.

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