

## Ashland Inc. launches natural colors for use in oral dosage forms

FRANKFURT, Germany – Manufacturers of nutraceutical oral dosage forms now have more coating choices with the launch of the Aquarius<sup>™</sup> coatings natural colors palette from <u>Ashland Specialty Ingredients</u>, a commercial unit of Ashland Inc. (NYSE: ASH). Label friendly and in compliance with food regulations, these coating systems use colorants based on natural ingredients that are color stable under light and storage conditions.

Available in a spectrum of hues, the new palette increases Ashland's nutraceutical offerings and clearly designates solutions that comply with regional and global regulations. The natural coating systems palette for Aquarius<sup>™</sup> coating systems was developed in response to market demand for natural coatings that are in compliance with changing regional regulations for nutraceutical products.

"Nutraceuticals are subject to food regulations, which are more restrictive than their pharmaceutical counterparts with regard to the permitted colorants used in tablet coating systems," said Laurie Kronenberg, new product leader, Pharmaceutical and Nutrition Specialties, Ashland Specialty Ingredients. "We anticipate that more colorants may come under future use restrictions."

Furthermore, because major markets have differing compliance requirements for colorants – for instance, iron oxides are allowed in pharmaceutical and food applications in the EU, but are only for pharmaceutical use in the U.S. – Ashland saw a need for a broader color palette for their tablet coating systems that addresses regional regulatory requirements. "We have recognized that historically, natural colorants are generally perceived as not particularly color stable, especially with regards to light stability," said Tom Durig, Ph.D., R.Ph., technical director, Pharmaceutical and Nutrition Specialties, Ashland Specialty Ingredients. "Through comprehensive and quantitative light and storage color stability testing, our scientists were able to eliminate natural colorants that are historically unstable and problematic from our tablet coating systems."

Derived from vegetable, animal and mineral sources, the compounds that make up the Aquarius coating systems natural colors palette are stable, label friendly, easy to use and can be combined with Ashland's Aquarius MG coating systems' moistureguard line.

Ashland Specialty Ingredients is a global leader in cellulose ether technology. Delivering pharmaceutical and nutraceutical performance since the 1950s, it provides an unparalleled range of functional excipients for solid, semi-solid and liquid dosage forms. Ashland Specialty Ingredients creates value for its customers through applications knowledge, market insight, regulatory support and a powerful product portfolio, including Advantia<sup>™</sup> and Aquarius<sup>™</sup> coating systems; Aqualon<sup>™</sup> ethylcellulose Aqualon and Blanose<sup>™</sup> sodium carboxymethylcellulose (CMC<u>Benecel</u><sup>™</sup>hethylcellulose and hypromellose; Klucel<sup>™</sup> hydroxyethylcellulose; Plasdone<sup>™</sup> povidone; Plasdone<sup>™</sup> copovidone and Polyplasc crospovidone.

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.

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 www.ashland.com to see the innovations we offer through our four commercial units – Ashland Specialty Ingredients, Ashland Water Technologies, Ashland Performance Materials and Ashland Consumer Markets (Valvoline).

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