News Release

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Ashland explores the culture, science and technology of personal care at in-cosmetics 2016

Investing in personal care centers of excellence around the globe, Ashland unveils a market-specific approach to the development of ingredients and formulation prototypes based on consumer preferences in different cultures, markets and geographies

Paris, France – Ashland Inc. (NYSE: ASH) today announced that it is enhancing its network of personal care centers of excellence around the world to better serve manufacturers of hair, skin and oral care products with ingredients and prototype formulations preferred by consumers in a specific culture, market or geographic area.

“Accounting for differences in the way consumers use personal care products around the world, variances in the perceptions of ingredients on different hair and skin types, the culture of populations, and varying climate, is key to the future success of the personal care industry,” said Linda Foltis, Ashland’s vice president of care specialties research and development. “In building out personal care R&D facilities around the world, we are better able to gain consumer insights and advance the science of personal care for our customers.”

Ongoing investments in sophisticated laboratories in key locations worldwide allow Ashland to conduct formulation, measurement science and clinical/consumer studies on both a regional and global basis. At the same time, regional and global marketing teams enable Ashland to see and understand the market activity and emerging trends in much of the world.

“Accordingly, Ashland now develops new ingredients for global and regional markets, whereby a global laboratory network provides support for regional market needs in the areas of formulation, market claims substantiation and clinical or consumer science studies. These data sets become a part of the Ashland global network and can be leveraged for use in other regions,” she said.

Ashland’s global technology network resides within its “Dimensions of Care” concept, where expertise in culture, science and ingredients come together to form a market-specific solution for customers.

At the in-cosmetics trade show today, live models representing various skin and hair types from around the world were on hand to demonstrate hairstyle, cosmetic, and skin beauty preferences based on prototypes containing Ashland ingredients.

Innovative new skin care ingredients

It is estimated that by 2020, approximately 5.9 billion people worldwide will have access to smartphones. Cellular phones and other devices emit what is known as blue light, a high-energy form of visible light in the violet/blue band that ranges from 400 to 500 nanometers. Ashland’s new Blumilight™ biofunctional addresses the skin-damaging potential of blue-light pollution emanating from cell phones, computer screens and natural sources. Blumilight is a first-of-its-kind ingredient to help maintain the presence of blue-light-sensitive photoreceptors in skin, in

vitro. Opsin photoreceptors mediate the conversion of a photon of light into an electrochemical signal.

“Blue light pollution from all sources is known to induce mitochondrial reactive oxygen species (ROS) and free radical production in epidermal cells,” said Anne-Francoise Clay, marketing manager, skin care biofunctionals, Ashland. “Studies conducted at Ashland’s Vincience™ Skin Research Center demonstrate that Blumilight offers antioxidant benefits, in vitro. Blumilight is associated with a very significant reduction in mitochondrial and cellular ROS induced by blue LED, in vitro.”

Ashland’s Blumilight is the first cocoa peptidic fraction on the market - a product derived from the seeds of premium (and sustainable) cocoa grown in Peru. The peptidic fraction is also the first skin care ingredient demonstrated to maintain opsin 1, opsin 2 and opsin 3, the light-activated receptors expressed in epidermal skin that serve as photosensors. Other products in the market serve as UV/blue light filters situated at the top of skin.

Introducing PhytoRNx Baobab™ biofunctional

PhytoRNx Baobab™ biofunctional is the first natural extract inspired by the cellular nucleic acids residing in seeds of the baobab tree. It is different from all other extracts in that it is the first anti-aging skin care offering based on a proprietary process proven to yield a high concentration of plant ribonucleic acids (RNAs).

“Small RNAs are at the center of numerous studies in the field of epigenetic regulation,” said Neil Astles, global marketing manager, Vincience biofunctionals, Ashland. “Many of these studies suggest that small RNAs play a significant role in regulating the expression of genes to help organisms adapt to their environment. Inspired by observations centered on plant small RNAs, Vincience developed and patented an innovative extraction process to increase the extraction and yield of plant small RNAs from the baobab tree.”

Screenings of PhytoRNx Baobab suggest that a plant extract rich in small RNAs is associated with increased expression of collagen I and III, ex vivo. Studies also confirm that PhytoRNx Baobab is associated with improved expression of Drosha and Dicer enzymes, two key enzymes essential for micro RNA maturation. The natural extract is also associated with increased expression of hyaluronic acid, ex vivo, and with increased expression of hyaluronan synthases (HAS2), in vitro.

“The personal care industry now has access to a new category of functional molecules - plant small RNAs - a powerful biofunctional associated with improved epigenetic homeostasis in aging skin,” said Astles.

Consumer-desirable styling polymers

In hair care, a need exists to deliver both styling and conditioning benefits from a range of leave-in systems. Polyelectrolyte Complex Three (PEC3) is a new patent-pending offering ideal for mousse systems that supplies both long-lasting styling and conditioning benefits to hair through a gel network. The technology is based on guar hydroxypropyltrimonium chloride and acrylates copolymer - a complex that coats the hair surface with exceptional efficiency. A range of desirable attributes can be delivered with PEC3, including easy comb-through, enhanced slip, natural hold, humidity resistivity, manageability, and shine. Moreover, PEC3 is heat activated with styling tools to produce a strong, cohesive wash-resistant film that provides the benefits of smoothing, anti-frizz, and shine.

In hair-care spray forms, Ashland now offers Advantage™ 2VC-P polymer, an anionic film forming technology that functions as a hair fixative. The polymer affords formulators of aerosol and pump hairsprays the ability to create cost-effective systems. Advantage™ AC-P polymer, a polymer for hair-setting products, is also introduced. An acrylates copolymer, it provides a strong, long-lasting effect on hair. The copolymer, with very good propellant tolerance, is ideal for use in aerosol spray systems.

“Now more than ever, consumers require exceptional styling attributes with the convenience of fast delivery systems,” said David Popplewell, global product manager, hair care, Ashland. “Adding these highly functional polymers effectively expands our hair fixative portfolio to include the top five ingredients used in hairsprays, and at the same time, affords formulators of hair care products the option to work with Ashland to produce highly efficient, highly functional products in one setting.”

Nature-identical preservation

Preservation technology is changing in tandem with consumer requests for alternatives to traditional preservative systems. Responding accordingly, Ashland now offers Optiphen™ DLP preservative, the second in a series based on the Optiphen P technology platform. The new offering is sustainable and cost-efficient and designed for use in slightly acidic (pH) skin, hair and color cosmetic formulations. Its nature-identical active ingredient provides antifungal boosting properties. At higher concentrations, full protection can be achieved.

“As consumers gravitate toward natural, sustainable personal care formulations, manufacturers of these products will require fitting preservation technologies,” said Andrea Wingenfeld, global marketing manager preservatives and medical care, Ashland. “Optiphen DLP preservative is a sustainable nature-identical technology that enhances the antimicrobial efficacy of the active ingredient, allowing for a lower use level,” she said.

For more information about Ashland’s new ingredient offerings, or to learn more about the company’s personal care centers of excellence, visit Ashland at Stand E60, today through April 14, Porte de Versailles, or on the web at Ashland.com.

About Ashland

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 adhesives, architectural coatings, automotive, construction, energy, food and beverage, personal care and pharmaceutical. Through our three business 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 ashland.com to learn more.

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FOR FURTHER INFORMATION:
Michaela Neilson
Communications Manager, EMEA
Ashland Industries Europe Gmb
mneilson@ashland.com
Tel + 41 (0) 52 560 55 25