

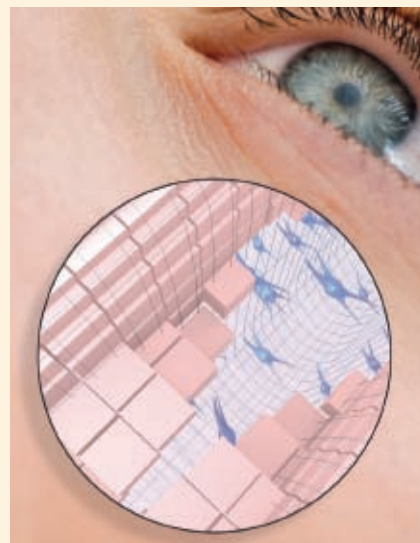
Active regenerates protective barrier

Microlesions suffered every day by the skin alter its essential barrier and protective functions. To fight against these mechanical aggressions, the skin cells and their mediators orchestrate a repair process whose successive phases are highly regulated in terms of space and time. Yet, stress and ageing disrupt this complex process; and the renewal of damaged tissues is slowed down.

The Glyco-Repair Bio active ingredient, developed by Silab, regenerates the depleted natural systems by:

- Synthesis of growth factor activin A, which is a tissue repair mediator.
- Synthesis of α -SMA, the characteristic marker of myofibroblasts.

In vitro, Glyco-Repair Bio facilitates dermal and epidermal repair, while *in vivo* Glyco-Repair Bio improves the capacity of skin tissue damaged by stress to repair and recover functioning. This active is certified by Ecocert Greenlife according to the Ecocert Natural and Organic Cosmetics and Cosmos standards.



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Natural beauty in London

The Organic & Natural Beauty Show will be held at the ExCel London on 2-3 June 2013 and is one of the few events to bring together the many facets of natural beauty products and supplements under one roof. The event is also an opportunity to network with industry colleagues and get to know the distribution sector in the UK. The event will encompass a variety of focus areas, including: cosmetics, raw materials, packaging, anti-ageing products, slimming products, food supplements and vitamins, with an expected 150 exhibitors and 60 speakers giving an excellent insight into the natural beauty industry as it stands today.

As part of the show, the Natural Health Beauty Awards will reward the most valuable products in more than 50 different categories, ranging from toiletries to face creams, makeup and hair care. The conference programme also covers a wide variety of areas ranging from legislative updates and regulatory harmonisation in Europe, retail landscape of organic and natural cosmetics, to anti-ageing techniques, current trends and research in organic and natural raw materials, the market of natural slimming products, standards in organic nutritional supplements, private equity funds covering the organic beauty market and raising money for cosmetic startups.

COMMENT

Cosmetic industry convenes in Paris

Paris will once again be the centre of attention within the cosmetics world as in-cosmetics returns to the French capital this month. As the preview article reveals in this issue of *Personal Care*, the educational element of shows such as in-cosmetics is extremely important, and the 2013 show will be no different.

Of particular interest will be the Anti-ageing Workshop which has an excellent range of presentations and presenters covering subjects such as the comparison of ageing between Asian and Caucasian skin, by Alain Khaiat, which should provide a great insight into this area. The new Fragrance in Cosmetics zone will also help formulators overcome particular challenges related to stability

issues as well as detailing trends in scents. These educational offerings are a great opportunity to learn about new technologies straight from the people who developed them, and most importantly, giving you the chance to ask questions.

The exhibition will again be a test of people's footwear and endurance, but it will be well worth it. The range of exhibitors is exceptional, and will give formulators a great view of the global market and learn about burgeoning new trends, techniques and technologies. And, of course, *Personal Care* will be exhibiting in Paris on stand B135 – we look forward to seeing you there.

Richard Scott
Editor

Label for sustainable innovation

Clariant has announced its new EcoTain approach to sustainable innovation. The EcoTain life cycle and label developed by Clariant is driven by the commitment to protect human, environmental and ecological health without compromising on performance and efficiency.

The world population is growing, while the natural resources available for industrial use are limited. As the cost of raw materials has increased, the industry is under increasing pressure to find ways of using fewer raw materials and less energy. At the same time, a growing trend of eco-awareness among consumers has developed and demand for

more natural, sustainable products is strong.

EcoTain represents a systematic approach to sustainable innovation by providing a tangible means of understanding the ecological, economic and social impact of Clariant's products over the entire value chain. It also supports companies towards achieving their targets for sustainability.

Products in the Crop Protection and Paints & Coatings business lines have already been brought under the EcoTain umbrella; further business lines will follow. New sustainable ingredients are also currently in the pipeline and will soon be launched under the EcoTain label.



Changes at ingredient supplier

Natura-tec, a business of Ceratec Sarl, focuses on international distribution and technical support of performance ingredients for the personal care industry via a dedicated global distribution network. Innovative products and modern technologies are made available thanks to its manufacturing facilities and its international associates.

Natura-tec widens its portfolio of natural materials available within the A&A Parodi Group which includes refined vegetable oils, emollient esters, natural waxes and butters, thanks to the addition of innovative natural based emulsifiers, vegetable based alternatives to silicone and petrolatum, vegetable lanolin substitutes, protein derivatives, plant extracts and natural active ingredients. Moreover, since March last year, the Natura-tec team has been strengthened by the arrival of new members:

Pascale Goyat, previously marketing manager at CRM International, joins with extensive experience in the quality control, manufacture and industrialisation processes of finished cosmetic products at Chanel, and takes over the role of marketing manager at Ceratec, incorporating Natura-tec division, providing commercial and technical support.

George Rosson, previously general manager at CRM International, following almost 10 years at the Zschimmer & Schwarz Group as director of the Care Speciality Division and with a diverse experience developed in various major international roles in the chemical industry starting with a 10 years career at Croda, now joins Ceratec as managing director and will lead the company as regards its growth strategy, distribution, product development and team management processes in line with the group's expansion activities.

Genome of sphingolipid-producing yeast strain

Evonik has developed a patented biotechnological green production process based on the fermentation of a non-conventional yeast called *Wickerhamomyces ciferrii* (formerly known as *Pichia ciferrii*).

This yeast produces high amounts of the ceramide precursor phytosphingosine, which is secreted into the growth medium, extracted and further converted into a range of ceramides marketed as valuable cosmetic ingredients. The ceramide biosynthesis pathway is conserved from yeast to man.

Therefore, Evonik's ceramides have the same stereochemical conformation as the ceramides in our skin, i.e. they are truly skin-identical. The next step was to analyse the genome sequence of *Wickerhamomyces ciferrii*

which will help to get valuable information for the general understanding of sphingolipid biosynthesis. This will likely pave the way for the development of tailor-made yeast strains with improved sphingolipid production capabilities.

Scientists from Evonik's Consumer Specialties business unit, together with colleagues from the Science-to-Business Center Biotechnology and collaboration partners from academia, recently determined the draft *Wickerhamomyces ciferrii* genome sequence.

The project was funded by the Federal Ministry of Education and Research (BMBF). The genome sequence was just published in the peer-reviewed journal *Eukaryotic Cell* [Schneider et al., *Eukaryotic Cell* 2012; 11 (12): 1582].

Inaugural award granted

DuPont Tate & Lyle Bio Products Company LLC announced the winner of the inaugural Zemea Innovation Award programme launched earlier this year. Knowlton Development Corp. (KDC) was selected as the winner for its patented Natural Zea deodorant stick platform.

Zemea propanediol is a natural, 100 per cent biobased ingredient made from corn sugar through fermentation and developed for use in the cosmetics and personal care market. It is a high-performance, environmentally sustainable alternative to petroleum-based glycols and glycerin, where the product's lack of skin irritation, improved moisturisation and excellent aesthetic properties are benefits. Zemea is approved as a natural ingredient by Ecocert and the Natural Products Association; is certified 100 per cent biobased by the US

Department of Agriculture and has both Kosher and Halal certifications.

The Zemea Innovation Award programme is designed to recognise companies who have commercialised innovative cosmetics and personal care ingredients or finished products that contain Zemea propanediol.

"It is exciting to see the breadth of nominations submitted from around the world where Zemea is a critical part of the innovation achievements. KDC's developments with Zemea truly embody the spirit of the Zemea Innovation Award. Specifically, KDC started with targeted product claims built around the performance and sustainable attributes of Zemea which has resulted in this innovative natural deodorant offering," said Steve Hurff, vice president of marketing and sales, DuPont Tate & Lyle Bio Products.

New hair care ingredients

Soliance will be revealing new ingredients for hair care at in-cosmetics 2013: Glossylance, the 'ultimate' shine ingredient; Sophogreen, the green solubiliser and Appygreen 812, the sustainable surfactant.

Using a combination of white and green technologies, Soliance has created the 'ultimate' shine active ingredient: Glossylance. Composed of extracts of sugar cane and lemon zest, obtained with a mix of alpha hydroxy acids, this delicate and natural blend is a veritable beauty enhancer for hair. The hairs were observed along the distal zone under a Scanning Electron Microscope. The use of a shampoo with 5% of Glossylance was found to smoothe the hair's scales. A clinical trial was carried out on 80 volunteers. The effects of different products on hair shine were double-

blind tested by a professional hairdresser using a point scoring system and the results showed that Glossylance significantly increases hair shine.

As a result of its expertise in biotechnology, Soliance has created a plant-based solubiliser: Sophogreen. Sophogreen is produced from fully natural, locally produced raw materials as an alternative to petroleum-based solubilisers. Sophogreen is a solution containing a high concentration of sophorolipids.

To produce Sophogreen, Soliance developed an industrial process based on biotechnologies. This process comprises three main steps: a phase of fermentation, a bioconversion phase and a purification phase. Sophogreen is the first locally sourced bio-solubiliser. The product is therefore easily available, its supply is secured,

it is guaranteed GMO-free, palm-free and therefore performs better as a solubiliser.

To meet new challenges like minimising the use of primary surfactants, generally anionic and respond to the 'sulphate free' trend, Soliance created Appygreen 812, a mild and ecological surfactant. Appygreen 812 is a plant-based formulation booster that improves cleaning and increases the viscosity and foam volume of formulations. The polar head of Appygreen 812 is obtained from non-digestible sugars from hemicellulose.

Appygreen 812 allows formulators to produce sulphate-free formulas with remarkable foam volume and stability. By acting in synergy with the cleaning bases, with or without LES, it is the ideal green partner for rinse-off cosmetics.

Whitening ingredient granted approval

The Chinese State Food and Drug Administration (SFDA) has approved Symrise's SymWhite 377 as an ingredient for cosmetic applications.

Thanks to the SFDA approval of SymWhite 377, Symrise now offers its successful and potent solution for brighter skin also for the Chinese market. SymWhite 377 has an excellent safety profile and provides visible effects in less than 14 days. SymWhite 377 can improve the appearance of dull complexions, can promote clarity and brightness, and provide a beautiful, uniform skin tone. Further, it can also diminish the appearance of dark facial hair. As a powerful anti-oxidant it delivers an added functional value.

SymWhite 377 can be used in a wide range of cosmetic applications such as face creams, BB

creams, anti-dark spot cream for hands, post depilatory cream ('bikini cream') and deodorant.

SymWhite 377 (INCI: Phenylethyl Resorcinol) is inspired from pinosylvin, a natural skin brightening compound occurring in pine. It was synthesised and screened for tyrosinase inhibitory activity as well as for antioxidant efficacy. In many *in vitro* tests SymWhite 377 was the most potent ingredient among all the compounds investigated. The tests also showed that the



effect of SymWhite 377 was not due to cytotoxicity. Additionally it exhibits very potent antioxidant activity.

An *ex vivo* study using human full-thickness skin explants was used to evaluate the efficacy of SymWhite 377 in a more relevant situation and showed a significant improvement after 6 days. Finally, a clinical study with Asian subjects proved that 0.5% SymWhite 377 is a more effective solution for brighter skin than 1.0 % kojic acid.

Normalising skin surface microflora

Ashland Care Specialties, a business unit of Ashland Specialty Ingredients, has announced the launch Skin's Ecology, an initiative in support of new products that help normalise microflora on the surface of skin. The skin's natural probiotic defences are supported by antimicrobial peptides and are essential in the skin's ongoing fight against undesirable microorganisms. Ashland will show how a biofunctional ingredient based on flax seed may be used to support cathelicidin and β -defensin antimicrobial peptides, an important class of biological peptides necessary to maintain a proper ecosystem balance on skin.

"Probiotics are consumed by millions of people every day to help balance the body's inner microflora. Likewise, it may be possible to

enhance the natural microbiome and biochemical shield on the surface of skin with a topical cream containing Lipigenine biofunctional," said Justine Cotton, marketing manager, skin care biofunctionals, Ashland Care Specialties. "Inspiration for our biofunctional derived from flax seed comes from the process pertaining to skin's own lipid production in the *stratum corneum*, which goes beyond a physical barrier function to include a biochemical shield against the proliferation of undesirable microorganisms."

The body has hundreds of natural antimicrobial peptides with an ability to inhibit the growth of harmful microbes. Ashland's laboratory work *in vitro* and *ex vivo* has demonstrated that it is possible to enhance the expression of beneficial cathelicidin LL-37 and β -defensin

antimicrobial peptides in keratinocytes 24 hours after topical application of 1 per cent (active) Lipigenine biofunctional.

"The results surpassed our own expectations," said Cotton. "*In vitro* and *ex vivo* test results suggest an improvement in the expression of antimicrobial peptides that ranged from approximately 50 per cent to nearly 150 per cent. Follow-up efficacy testing showed significant growth inhibition of an undesirable microbe after contact with cultured medium from keratinocytes. Based on these results, we envision a new category of skin care products that may assist the skin in its natural efforts to normalise microflora on the surface of skin and balance its ecosystem to help protect against external stresses."

Fragrance acquisition

Symrise has acquired the global fragrance business of the Belmay Group, an international developer and manufacturer of fragrances and perfume oils. With this acquisition, Symrise is taking another strategically important step towards sustainable growth in the fine fragrance, personal care and air care segment.

The Belmay Group, headquartered in Yonkers, New York, is an established and renowned developer and manufacturer of fragrance creations, particularly in fine fragrances, cosmetics and air care. Belmay has been on a stable and profitable growth trajectory for years and generated fragrance sales of around US\$ 60 million in the 2012 fiscal year. At the beginning of 2012, Symrise took over Belmay's Brazilian fragrance

business, which has been integrated into local operations successfully.

Dr Heinz-Jürgen Bertram, CEO of Symrise, said: "Symrise aims at profitable growth and continuously expands its activities in market segments that are growing dynamically. The market for air care products, for example, has been experiencing above-average growth for the past few years. This holds true on an international level and especially for North America, where demand for air care products is particularly strong. Belmay has a strong market position and has been operating profitably for years. With this acquisition, we are further enhancing Symrise's profile and gaining access to exciting new customer groups."

Multifunctional and skin care launches

ProSynergen DF, Lonza Personal Care's newest ingredient, addresses the concerns of compromised skin. This powerful active results from the fermentation of two microbes grown simultaneously, creating a competitive environment for survival. Healthy skin has intact barrier properties allowing it to recover and repair damaged cells through an on-going regenerative process. Intrinsic and environmental factors contribute to damaging the epidermis, diminishing its ability to protect itself or hold on to moisture. Since skin is the body's first line of defence against any physical or chemical assault, strengthening barrier function is the primary means to improve compromised skin. By protecting the barrier, ProSynergen DF improves the look of compromised skin and reduces the appearance of signs of premature ageing.

Lonza Personal Care is also launching a new natural ingredient, Natrulon GPS 341, which offers multiple functions in formulations. This unique cosmetic ingredient can be added as a natural fragrance in order to enhance the aroma of a formulation. In addition to this benefit, there is a secondary effect where the natural ingredients in this blend impart an excellent broad spectrum anti-microbial effect in the cosmetic product which is not seen independently by any of the ingredients. Natrulon GPS 341 is a unique product which meets the multiple needs of formulators by acting as a multifunctional cosmetic ingredient at normal concentration levels.

New production facility

Codif Recherche et Nature has opened a new facility dedicated exclusively to marine biotechnology at its plant in Roz sur Couesnon, France.

A new production platform of 1000 m² will feature several reactors for cultivation of microalgae and macroalgae with a total capacity of 3000 L, a 4000 L bioreactor for cultivation of plankton micro-



organisms, and a module of enzymatic conversion. With these new tools for production, Codif Recherche et Nature will soon offer to its customers an extract of rare and very fragile macro-alga, never cultivated before and whose culture has required four years of development. This new biotechnological extract will be highlighted at in-cosmetics, Paris, in April.

\$10 million research facility under way

Arizona Chemical recently broke ground on its newest Science & Technology Center in Savannah, Ga. The 27,000 sq. ft. facility is scheduled to open in December 2013, and is expected to cost \$10 million to build. The Savannah S&T Center will be home to Arizona Chemical's US research and development activities and will replace the company's existing research facility in Savannah.

"This is an exciting day for us," said Carl Bilgrien, vice president – Science & Technology, at the groundbreaking ceremony on 6 March 2013. "As a company, we are committed to a vision of being a global leader in innovative, sustainable chemical solutions, and our newest S&T Center in Savannah will provide us with the resources to achieve that vision."

When complete, the new Savannah S&T

Center will be home to more than 50 scientists and support staff focused on developing bio-based solutions for the company's customers. "This new centre has been designed to provide us with a state-of-the-art research environment in a contemporary facility that will appeal to customers and attract science and technology professionals to Arizona Chemical and to Savannah," Bilgrien explained.

Arizona Chemical's footprint in Savannah is well-established – in addition to the S&T Center, the company also has a large refinery there. "Our Savannah refinery is among the largest in the company and the global pine chemicals industry. We now have more than 200 employees in the Savannah area," said David Cowfer, vice president, Human Resources & Communications.

Distributor appointed

Speciality chemical distributor Surfachem Limited recently announced the company will represent Givaudan's Fragrance division, presenting fragrance compounds to the personal care, homecare and I&I sectors in the UK and Ireland.

"Surfachem recognise that fragrance can be fundamental in a consumer's perception of a final product. The partnership with Givaudan will enable us to strengthen our offering into the core market segments that we service as well as fulfilling our ambition to be aligned with industry-leading partners," said Dr Richard Smith, MD of Surfachem Limited.

In a comment from Givaudan, they stated: "Surfachem's position as a leading distributor of speciality chemicals alongside their focus on sourcing products from market leading suppliers made them the perfect partner."