How skincare products can fight pollution?

Endocrine disruptors (interview)

New ingredients
Biotechnological active obtained from French saffron flower

- Skin barrier and NMF are reinforced
  > stimulation of profilaggrin expression and anti-lipoperoxidant activity

- Redness is attenuated
  > reduction of inflammatory response via the inhibitory effect of NF-κB activation

- Cutaneous discomfort sensation is decreased
  > antagonistic effect on TRPV1

The ideal solution for reactive and hypersensitive skins
How skincare products can fight pollution?
Endocrine disruptors
New ingredients
Skincare: What strategies against pollution?

April 2016, by Régine Frick

We live in a polluted environment and we know it. In certain metropolises, in particular in Asia, urban atmospheric pollution has reached such a high level that it directly affects human health. And with the resulting smells, the dust deposits in their homes or on their skins, and the warnings by the authorities, most citizens are really aware and informed about this issue. Our ability to find adapted solutions to this problem is now one of the major challenges in our world. As for the skin, to protect it from pollution consequences, the cosmetics industry has been developing new ingredients, adapted formulation concepts, and specific tests.

According to the World Health Organization (WHO), air pollution represents the greatest health risk of the environment*, and statistics are far from reassuring. In 2012, health problems related to atmospheric pollution resulted in about 600,000 premature deaths and diseases in Europe, and no less than seven million on the global level.

Fine particles, heavy metals, ozone, carbon monoxide, or volatile organic compounds (VOC) conceal in the air and regularly reach concentrations higher than the thresholds recommended by the WHO. In 2013, 87% of the urban population in the European Union was exposed to PM2.5 (fine particles with a diameter smaller than 2.5µm) concentrations higher than those recommended by the WHO.** And the future does not seem to be any more promising, as two thirds of the Earth’s inhabitants will live in cities by 2050, compared to 50% today.
Alteration of the skin’s balance

Knowing that certain particles are twenty times smaller than the skin pores, the various pollution sources have an impact on the epidermis and even contribute to altering its balance. Several scientific publications have confirmed this.

Symrise and Professor Jean Krutmann’s team at Düsseldorf’s Leibniz Research Institute for Environmental Medicine have conducted an epidemiological study rewarded at the 2015 IFSCC congress (International Federation of Societies of Cosmetic Chemists), which provided evidence that exposure to air pollution and fine particles had an impact on the skin. They observed an increase in the external signs typical of reactive skins (redness, dehydration, eczema), deeper wrinkles, and the appearance of pigment spots.

The scope of the mechanisms of action involved is very broad, but they have been gradually unveiled by scientific research work. “Environmental factors seem to act according to a common mechanism involving the AhR aryl hydrocarbon receptor that can be found on several types of skin cells: keratinocytes, fibroblasts, melanocytes, and Langerhans cells. It is believed that it is the activation of this receptor under the effect of these factors and UVBs that triggers in the cells the expression of various genes controlling the reactions.
related to oxidative stress, the induction of pigmentation or inflammation, immunosuppression, and premature aging,” explain the authors of an article published in the Addiactive journal of the Gattefossé Group.

Protecting the skin from pollution has become essential, and consumers are expecting specific products to be developed. As regards this issue, the industry has once again showed how reactive it was and, according to Mintel, between 2011 and 2013, there was a 40% increase in the number of cosmetics marketed which displayed an anti-pollution claim, in particular in the Asian-Pacific region.

Cosmetic ingredient suppliers offer a few solutions

Cosmetic ingredient suppliers vie with each other in ingenuity and innovation to offer adapted solutions. Several strategies have been adopted.

Some companies have chosen to isolate the skin from the external environment with a non-occlusive film. Solabia’s Pollustop® is a ramified, deacetylated polysaccharide with a high molecular weight that forms a shielding matrix. TRI-K relies on a plant-derived copolymer, PhytoVie™ Defense, to act as a screen against pollution. With Pollushield™, Lipotec has played with their synergy with Lubrizol to market a functional active ingredient which, other than its metal-chelating properties, is antioxidant and anti-lipoperoxidant. And Silab has collaborated with Filmexel to develop a biopolymer composed of two polysaccharides for a protective second-skin effect.

Other companies have banked on powerful antioxidants, anti-lipoperoxidants, anti-glycation agents, or anti-free radical ingredients. With Smooth Lightening Rose Blanche, Naolys reduces the creation of free radicals resulting from UVBs and pollution to enhance the skin’s radiance. Phenbiox has proven that in a polluted environment, their active, Hydropom, which is very rich in tomato lycopenes, can sustain its strong antioxidant activity. With Plantasens Olive Active HP, Clariant acts on the lipid peroxidation induced by UV rays and prevents glycation. ID BIO has chosen to fight against inflammation with Cell’intact®, which reduces the pro-inflammatory response, rebuilds, and reinforces the architectural network of the epidermis. The aryl hydrocarbon receptor (AhR) has become Algues et Mer and Silab’s main target, with Invincity® and Mitokinyl®, respectively. Invincity®, a brown algae extract with a high molecular weight and very concentrated in fucoidans, reduces the expression of AhR by 73% and repairs pollution damages. Mitokinyl®, which is rich in glucomannans, inactivates the AhR, but also normalizes the synthesis...
of a mitokine, prohibitin, for an anti-pollution effect. As for **Givaudan**, they target urban stress with Neurophroline™, which blocks the production of cortisol and enhances the release of endorphins. Ultimately, with EPS White, Codif acts specifically on the pigment spots induced by pollution by targeting pigment synapses.

**Turnkey concepts**

Certain companies go even farther by developing turnkey concepts. “At **BASF**, we selected four complementary ingredients to test their anti-pollution efficacy. Purisoft™ acts as a protective film to limit the adhesion of particles and enhance their elimination when cleansing the skin. The second one, Arganyl™, exhibits a strong antioxidant effect; then, Eperuline™ reduces chronic inflammation, and PatcH2O™ rehydrates the skin for an optimum comfort sensation,” explains Birte Kattelmann-Jagdt, Communication Director.

**Seppic** has introduced the MLPF™ (Modern Lifestyle Protection Factor) as a new SPF to fight against urban stress. Six levels of protection are available, for example with the MLPF1 for a protection against pollution with Native Essence™, which stimulates the cell renewal of asphyxiated skins with the release of CO2 in the skin, and with Sepitonic™ M3, which provides of breath of fresh air and boosts the cell metabolism.

As for **Solabia**, they have dealt with pollution in five steps: prevention, defence, fortification, stimulation, and repair, with adapted actives for each step.

**Adapted in vitro tests**

The development of these new actives requires developing in vivo, in vitro, and ex vivo biological tests adapted to this new anti-pollution trend.

“The impact of urban pollution on the skin’s quality has mostly been demonstrated by studies on a given population within the scientific community. Evidence has been accumulated as from 2010, and at **StratiCELL**, since 2014, we have been tenaciously working on adequate in vitro test solutions to study the efficacy of products in protecting against pollution effects,” explains Roland Hubaux, researcher at StratiCELL.

The company uses different molecules and reference polluting agents like urban dust and standardized cigarette extracts to study the actives anti-pollution effects in terms of oxidative stress, inflammatory condition, and detoxification pathways related to Nrf-2 and AhR. From a more mechanistic standpoint, StratiCELL has developed a qPCR TLDA card with 96 genes involved in the cell or tissue response to environmental stresses and...
detoxification pathways.
Even though air pollution will remain at a level higher than what we want it to be, we are actually starting to find ways to limit its effects on the skin, its radiance and aging. Obviously, this service provided by the cosmetics industry can only be coherent if it is always accompanied with considerable efforts to reduce the sector’s environmental footprint. We already know about the tremendous progress achieved on this issue so far, but we are also aware of the work still to be done!

Régine Frick

* Economic cost of the health impact of air pollution in Europe, WHO, April 2015
** Air quality in Europe - 2015 report, European Environment Agency (EEA), November 2015
*** Symrise and Leibniz-Institute for Environmental Medical Research GmbH, IFSCC Poster Award, International Society of Cosmetic Chemists (IFSCC) Conference, Zürich, 21-23 September 2015
**** Pollution & the city, Addiactive, no.98, March 2016, Gattefossé
From a technical and scientific perspective, there is no doubt the issue of endocrine disruptors is currently one of the most sensitive and complex. And given the number of – sometimes excessively alarming – articles drawing the attention of consumers on these substances, it has also become one of the most controversial. Within such a context, how can we stand back from this issue? Premium Beauty News met Laurence Moulon, a toxicologist fascinated by natural substances.

**Premium Beauty News** – What does the term “endocrine disruptor” refer to exactly?

**Laurence Moulon** – The endocrine system is essential to human and animal health, because it regulates and controls the release of hormones, these chemical messengers vital for functions like our metabolism, growth and development, sleep or mood... Hormone regulation is also extremely important at certain critical stages of our development, in particular for foetuses, infants, and children.
The endocrine system is very complex, and hormone release regulation depends on many factors. **Scientific knowledge in this field is still making progress.** As a result, there is a very stimulating debate going on among scientists to understand what an endocrine active substance is, as opposed to an endocrine disruptor.

The World Trade Organization (WTO) has suggested the following definition for an endocrine disruptor: “An exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub) populations.”

To the WTO, “an adverse effect is a significant change in morphology, physiology, growth, development, or lifespan of an organism which results in impairment of functional capacity to compensate for additional stress or increase in susceptibility to the harmful effects of other environmental influences.”

**Premium Beauty News** – How is this regulated at the European level?

**Laurence Mulon** – The European Commission relies on the opinions of a certain number of scientific authorities, in particular the EFSA (European Food Safety Authority) for food issues, the SCCS for cosmetics, and the JRC (European Commission Joint Research Centre) for other areas.
Research Centre Institute for Health and Consumer Protection) for the protection of consumers.

These authorities have approved the WTO definition, although they added a few points should be clarified, since all endocrine active substances (EAS) are not necessarily endocrine disruptors.

It is actually complex to define specific scientific criteria to distinguish the potential harmful effect of a substance compared to an adaptive response.

However, despite the various research work initiated by the European Commission, the latter was condemned by the Court of Justice of the European Union in December 2015 for being late to provide its definition of endocrine disruptors.

**Premium Beauty News** – How are endocrine disruptors assessed?

**Laurence Mulon** – The OECD started drafting guidelines specifically on endocrine disruptors in 1996, when it published a “Conceptual Framework for Testing and Assessment of Endocrine Disruptors”. It was revised in 2012.

This framework deals with biological complexity according to five levels. The more complex the molecule operating mechanism is, the higher the number of levels required by the framework will be. This way, methods switch from maths and in vitro models to living models.

The hormone signalling pathways best covered by these tests are related to oestrogens, androgens, and thyroid hormones, as well as steroidogenesis.

Nevertheless, JRC experts consider there are gaps in the existing tests and the tests standardized by the OECD should be completed.

And there are a few doubts as regards **cocktail effects** for mixtures and/or multiple exposures, low-dose effects, non-monotonous dose-response relationships, exposure windows, and transgenerational effects.

**Premium Beauty News** – What about “natural” substances?

**Laurence Mulon** – “Natural” substances are usually extracts that isolate one of the plant’s secondary metabolism components to concentrate it. Most often, the properties of this active are similar to those of the main substance obtained with synthesis, without any differentiation between the solubility of the genin form of this natural substance and that of its heteroside form, for example. This shortcut is usually not favourable to the natural component when performing a risk assessment. In any case, it is essential to better characterize the substance tested.
Let's take the example of **genistein**. This isoflavone was isolated and concentrated with various sources, in particular soya. It is very widely used in cosmetics, as it limits the degradation of elastin and collagen fibres by blocking inflammatory free radicals and cytokines signalling pathways. Genistein also has effects on growth and on the differentiation of adipose tissues. It can interfere with lipids metabolism.

As for systemic pathways, several studies have been conducted on rodents with genistein in the form of aglycones. When genistein is administered to rodents in gestation, it increases in particular the probability of foetus malformations and can alter their sexual behaviour during their development. What about the heteroside form? Does it have the same behaviour in animals as the form tested?

In an in vitro study on MCF7 human cells, genistein presents the same activity as 17ß-oestradiol, but to a much lesser extent.

How can we interpret these results and transpose them to humans, bearing in mind that soya, to mention only this plant, is the basic diet in Asia?
A few epidemiologic studies attempted to correlate the consumption of phyto-oestrogens (PO), mainly daidzein and genistein, in Asian populations with the lowest frequency, with Western populations, certain types of cancer, or certain cardiovascular diseases. Certain experimental work allegedly demonstrate the relationship between a diet rich in PO during childhood and the appearance of insulin-dependent diabetes and the apparently higher number of children suffering from hypospadias who have vegetarian mothers.

The skin pathway remains to be explored.

**Premium Beauty News** – Given all these difficulties, what are the implications for cosmetics?

**Laurence Mulon** – As for cosmetics, since animal testing is banned, the assessment of endocrine disruptors stops at level 2 of the OECD Conceptual Framework. Unfortunately, in the absence of any structural and/or historical data on the molecule or family of molecules, this in vitro approach is often insufficient to decide about the absence of any harmful effect on the endocrine system.
According to the SCCS, in vitro tests are adapted to the detection of hormone activities. However, they must be completed with in vivo tests to detect any toxicity on development and/or reproduction, or with data on human exposure, if they are available.

The great unknown in cosmetics risk assessment remains the role of the skin’s metabolism. If we knew more about this factor, we would be able to reduce too conservative approaches to the minimum.

**Premium Beauty News** – In the end, what are we absolutely certain about in this field?

**Laurence Mulon** – To sum it all up, according to Jean-Pierre Cravedi, the effects induced by endocrine disruptors are likely to involve mechanisms that have something to do, one way or the other, with hormone homeostasis. There is a lot of evidence of this in terms of eco-toxicology and impact on wild fauna, mainly in aquatic environments. The causal relations between xenobiotics and endocrine disruption are rarer in humans. Still, there are more and more indications suggesting chemicals have an impact on endocrine regulation.
Algues & Mer: A secret weapon against the effects of pollution

Invicity® is a new marine active designed to protect the skin from pollution and fight the damages linked to the so-called Polluaging®. Invicity® is concentrated in high molecular weight fucoidans extracts from brown seaweeds harvested on Ouessant Island (Brittany, France). It regulates a specific receptor to polyaromatic hydrocarbons (AhR) found in keratinocytes, melanocytes, fibroblasts and Langerhans cells by decreasing its expression by 73%. Furthermore, Invicity® acts on VEGF, a specific inflammation mediator, shows a significant tyrosinase inhibition activity, increases collagen density, improves the skin barrier. So it repairs Polluaging® damages.

BAYER HEALTHCARE DIVISION SERDEX: Bayer fights skin redness and skin blotchiness

Bayer HealthCare Division Serdex launches this year an active ingredient that fights rosacea-prone skin and rosacea. Evaluated in vitro and in vivo, it shows a visible improvement of persistent redness and blotchiness on volunteers.

Furthermore, a new in vivo study on Madecassoside in patients with atopic dermatitis will be presented.
BASF sets the course for a sustainable future

BASF is optimizing the sustainability performance of its personal care portfolio with the Sustainable Solution Steering®. The aim is to screen more than 2000 products to check their contribution to sustainability.

Furthermore, BASF has news goals for procuring palm oil products by 2025 only from sustainable sources certified by the RSPO. To date, 11 locations in Europe, Asia and North America comply with the RSPO criteria.

This year, the company is launching:
- **Reflecks™ Dimensions Brilliant Gold** is a new borosilicate with an intense gold reflection, high sparkle and chroma.
- **Flamenco® Summit Aqua** is a natural mica with unique blue shade and intense brightness.
- **Chione™ HD** is a range of synthetic mica.
- **Plantasil® 4V** is a new compound for cost-competitive shampoo conditioning.
- **Lys’Sun™**, a witch-hazel extract able to stimulate the synthesis of LOX-L, restoring the production of functional elastic fibers affected by photoaging.
CODIF beautifies urban residents

CODIF offers a new solution for dark spots urbanization induced. EPS White is a marine exopolysaccharide including two amino acids that allow a withdrawal as micro-vesicles which facilitate its penetration into the epidermis. It interacts with receptors localized on the surface of melanocytes to inhibit the formation of the pigmented synapse and therefore melanin transfer to keratinocytes. It counters the effects of urbanization by protecting the skin from inflammation and melanin synthesis pollution and UVs induced. Clinical test demonstrated a decrease in the number of pigmented spots on the cheeks 6% after two weeks and 20% after eight weeks.

Givaudan: Series of novelties

Following the integration of French cosmetics ingredients company, Soliance, and Swiss cosmetic engineering firm, Induchem, Givaudan’s cosmetic experts launch a whole set of pioneering molecules.

**Neurophroline™** is the first bioactive fighting skin stress by breaking down the cortisol production (-70%) and also promoting the release of endorphins (+163%) in the skin. It boosts in 48 hours two major anti-stress enzymes HMOX1 (+888%) and NQO1 (+528%). A clinical test made on volunteers living in skin stressing conditions has shown a very fast recovery of the skin luminosity, an improvement of skin color, a reduction of skin redness.

**Tightenyl™** is a skin bio-lifter to rejuvenate the skin extracellular matrix. It targets the synthesis of sulfated glycosaminoglycans and proteoglycans. Clinical trials show that it performs at least twice better than retinol.

**Vegetan™ Gold, is the first oil compatible with self-tanning molecule DHA** that is only compatible with water based formulas. The science behind is a micro-solubilization based technology that entraps DHA and enables to obtain **Vegetan™ Gold**, a ready to use in oil DHA.
Berkem launches its new range of botanical extracts and floral waters

Produced using extraction processes with low environmental impact, the botanical extracts from the new Botanykem™ range are a natural source of active molecules: flavonoids, tannins, vitamins, AHA, saponins, carotenoids. The floral waters extracted by distillation are source of aromatic molecules and will boost formulas by bringing active water.

These new ingredients are easy to formulate in any water-based cosmetic formulas and offer natural and essential benefits for face, body and hair.
Greentech stops light radiations

**Soliberine®** is a new global photoprotective active issued from Buddleja officinalis or butterflybush. It has an exceptional richness in phenylpropanoids and is highly concentrated in vernacoside and echinacoside. It acts thanks to a dual power of protection and stimulation. It absorbs the main part of UVA and UVB radiations, stimulates cellular detoxification mechanisms, fights against premature aging, and inhibits lipid peroxidation induced by UV. Multi-benefit active, Soliberine® preserves the youthful appearance of the skin, keeping away from inflammation, redness, and premature wrinkles due to light rays.

Lipoid: protection and rejuvenation

**Sunflower PI Herbasome®** is an anti-aging concentrate based on liposomal phosphatidylinositol. It stimulates skin rejuvenation and regeneration on a cellular level. The composition is derived from 100% natural sunflower lecithin. The in-vitro studies show an increase in HAS2 gene expression, responsible for the synthesis of hyaluronic acid and a decrease of the MMP1 gene expression indicating protection against chronological aging.

**HerbaProtect NOX** protects the skin from peroxynitrite-induced UV damage. It is a highly antioxidative extracts from kakadu plum, pomegranate flower, and perilla. It counteracts the formation of cyclobutane pyrimidine dimers which can lead to mutations and skin cancer. It inhibits enzymes involved in the formation of peroxynitrite and acts also as an efficient scavenger of peroxynitrite-precursors and peroxynitrite itself.
Croda highlights its wide portfolio of ingredients

The new products showcased by Croda and its businesses feature:

- **CityStem™** from Sederma, a new active designed to fight against pollution damage.
- From Crodarom, Les Delices to awaken the five senses and Elfe Flower with its anti-inflammatory, antioxidant, antibacterial, anti-ageing, anti-fatigue and moisturising properties.
- **Prolevis™** that provides instantly skin smoothing of visible surface wrinkles and imperfections.

At in-cosmetics 2016, Croda will also showcase its **formulation expertise**, using its wide and diverse product portfolio. “Croda have been able to create some truly inspired formulations containing novel Croda ingredients, natural botanical ingredients from Crodarom and ingredients from Sederma’s range of skin care actives.”

---

**REVERSKIN®**  
Skin volumator smoothing

This powerful cellular booster is an active ingredient ultra-concentrated in Phytoecdysterols. It recreates the volume and the relief of a young skin by a double youth effect:

It anchors the epidermis in the dermis and it protects the fibrous network of matrix. The skin is firm, plumped, smooth and radiant.

---

www.greentech.fr
Lipotec wants to protect skin from pollution

In response to the raising concerns of consumers about pollution and its effects on the skin, Lipotec is launching Pollushield, a new functional ingredient that can help prevent accumulation of pollution particles in the epidermis and replenish the skin with antioxidants thus increasing its capacity to resist the harm caused by heavy metals, particulate matter and other harmful elements found in big cities and other polluted areas. The new active therefore provides a barrier between the skin and pollutants as well as boosts the antioxidative defense of the skin.

ID bio: A solution for facing up to urban lifestyle and pollution

ID bio has unveiled new tests carried out on its latest active ingredient extracted from organic buckwheat seeds, Cell’intact®. These complementary studies answer the consumers’ request to fight against urban pollution and cutaneous aggressions linked.

An ex vivo evaluation has been realized on skin explants to prove its effectiveness in presence of a pollutant (benzo[a]pyrene). The new test demonstrated that Cell’intact is able to reduce the skin’s proinflammatory answer and to rebuild and reinforce the architectural epidermis network.
Gattefossé reveals a younger skin

Gatuline® Renew targets skin texture, the most difficult to hide sign of age. This new natural extract of Japanese cedar buds relaunches the cell renewal mechanism; it increases keratinocyte energy and boosts all processes essential to proper epidermal reconstruction. The skin fully recovers its barrier function ensuring optimal preservation of water content and improved auto-regulation. The skin is smoother, more radiant and looks healthier.

Imerys: An alternative to plastic beads and a new mineral for pressed powders

**Imerys**

**ImerCare™ 190P-Scrub** natural microspheres are a 100% natural alternative to plastic beads in face scrubs. ImerCare 190P-Scrub is derived from perlite, a volcanic rock. It has been specifically engineered to obtain particles with a unique spherical shape and a controlled particle size distribution, resulting in gentle physical exfoliation.

Imerys will showcase some new and fun face-mask formulations such as Reptile Rough to Silky Smooth and Candy Floss, both containing ImerCare 190P-Scrub but also ingredients from the ImerCare™ natural, mineral range.

**ImerCare™ Velluto**, which has been to obtain an innovative structure which enhances cohesion and imparts multiple optical and sensory properties to make-up powders, in particular pressed powder foundations. Derived from 100% natural magnesium silicate, ImerCare™ Velluto confers high coverage and imparts a silky, unctuous feel and a smooth satin finish in concealers and foundations. It improves compaction, rendering pressed powders more resilient to breakage. Unlike many mineral powders on the market, ImerCare™ Velluto can easily be used in wet processes and prevents cracking.
SEPPIC, a new grade for Montanov 68 MB and new data for Ephemer

Montanov 68 MB, one of the first green emulsifiers, is finally available in RSPO MB grade. This emulsifier promotes liquid crystal formulation bringing high moisturization and skin restructuring performances. It allows the formulation of cream to thick cream textures in skin care or hair care.

Ephemerr™ is a gametophyte extract from the cells of macro-alga Undaria Pinnatifida that are grown in laboratory. The interest of gametophytes is that they accumulate anti-oxidant cells, but their availability in the ocean is very limited as they constitute an ephemeral stage in the life cycle of the seaweed. New tests show that Ephemer™ has both a short and long term antioxidant action. In vivo tests show an increase of the skin’s antioxidant capacity after 28 days, compared to a placebo.

Sederma fights pollution

Citystem™ is a biotechnology active coming from plant cell culture. It counteracts the effects of pollution on the skin while offering an effective protection against aggressions.
SILAB: A new biopolymer for a second skin effect

Based on its 25 years of expertise in natural biopolymers, Silab today proposes **Filmexel®** a natural biopolymer composed of two polysaccharides derived from biosourced plant: *Caesalpinia spinosa* a South American shrub and *Kappaphycus alvarezii* a water alga that grows in South East Asia.

Filmexel® is designed from a unique and patented Interpenetrating Biopolymer Network technology. It forms a resistant, flexible and non-occlusive film on the skin mimicking its properties and functions. It offers the widest range of cosmetic benefits: protective - lifting - sensorial.

Sophim opts for a modern slow beauty

A “slow beauty” that would be convenient for active urban women, sensitive to environmental issues? That is what Sophim aimed with its **Daily Greens serum recipe**: a kind, fresh, smooth emulsion, elaborated thanks to the synergy of two non greasy active emollients coming from olive oil, **Phytosqualan®** (Cosmos approved) and organic **Biophytosebum OR** (Cosmos certified). They participate to the protection of the hydro-lipidic structure of the skin, preventing trans-epidermal water loss and restoring skin suppleness.

The company will also showcase a selection of virgin oils extracted from greens seeds: **cucumber oil, tomato oil, chicory oil**.

Oléos: Global complexion control

**Bright Oléoactif®** is a new oily active ingredient eco-designed, 100% natural dedicated to global complexion control. It provides a comprehensive approach to the glow, the lightening effect and the correction of dark spots. The active ingredient acts on the 4 key stages of cutaneous pigmentation: keratinocytes via inhibition of the secretion of endothelin1, cell communication between keratinocytes and melanocytes, melanocytes via inhibition of tyrosinase and melanin pigments installed through inhibition of coloring of pre-existing pigments.
Solabia capitalizes on their expertise

For in-Cosmetics 2016, the Solabia group is highlighting two of its key areas of expertise: the development of the active ingredients and the skin pearls based on Solapearls® technology.

**Redyless®** is a new active ingredient based on piperonyl glucose which acts upstream and downstream of neuronal inflammation and redness. It inhibits the activity of TRPV1 and TRPA1 receptors triggered by climate changes and reduces established redness by a complete action on vascular phenomena. In vivo, it has proven a qualitative and quantitative reduction of erythrosis.

**Pollustop® – Glycofilm®** is deacetylated branched polysaccharide with a high molecular weight which forms a non occlusive film on the skin surface and hair. It makes screen for the penetration of pollutants (atmospheric pollution, UVs, domestic pollution) and reduces the induced damages.

**D-glycargine®** is a combination of two amino acids, L-pyrrolidone carboxylic acid and arginine. This PCA salt has demonstrated great potential in the fight against glycation (patent pending). After 14 days, it significantly reduces protein glycation and repair glycated proteins. With this dual action (preventive and curative), it ensures the maintenance and restoration of biomechanical properties for supple, firm and elastic skin.

**Solapearls®** combine biological effectiveness, product design and sensory experience. The technology is based on an exclusive interactive ionizing system combining pearls (Solapearls®) and an aqueous gel (solagel®) in which the elements fuse upon application to form a fluid or serum. The Solapearls® technology is a macro-inclusion technology. Solapearls® allow each company to develop its own finished product and associated concept.

Mibelle takes inspiration from the epigenetic science

**RoyalEpigen P5** is a biologically active peptide based on the epigenetic science. It uses the power of royalactin, the component of royal jelly which drives queen bee development. RoyalEpigen P5 stimulates the activity of the proteasome, maintains the regenerative potential of skin cells even in aging environment. In a placebo-controlled clinical trial, RoyalEpigen P5 increased epidermal cell renewal and smoothness for a refined skin texture and a youthful, even complexion.
71,900 visits / month  
(on average during the year 2015)  

46,900 unique users / month  
(on average during the year 2015)  

126,900 page views / month  
(on average during the year 2015)  

40,500+ subscribers to the weekly newsletter

Free information, in French and English, dedicated to the personal care industry - Rich exclusive editorial coverage and iconography - Free weekly newsletter - Knowledge centre and boutique for comprehensive business manuals and surveys.

WORLD CLASS NEWS  FOR BEAUTY INDUSTRY INSIDERS