



zoom #14

BY SKINOBS

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2019 was an important year of regulation changes in Europe, emphasizing the importance of the **claim substantiation** for personal care. The IFSCC congress highlighted the skin science in cosmetics with more than 200 posters dedicated to testing. In April, **in-cosmetics Global** will celebrate its **30th Birthday** in Barcelona giving an overview of the trends of the sector. In this Newsletter we will focus on the sensory analysis with “the word of expert” by Mrs Penser-Lhéritier and ask how to substantiate healthy skin. Then we will present the latest innovations of our partners: Cerco, Eurofins, I.E.C, Intertek, Phylogene, Dermatec, Expertox, Sens’ib, Cosmetoscent,

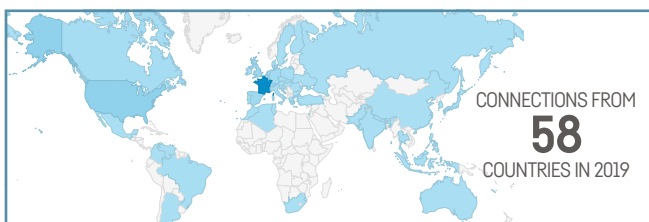
Happy reading!
Anne Charpentier, CEO

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+2700
CONNECTED
COSMETICIANS

+28%
USERS*

5
MINUTES*

+6500
SESSIONS*

*T4 2019 compared to T3 2019

*average session lasting since Jan. 2019

*in 2019



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BEYOND THE PERCEPTIONS: THE SCIENCE OF THE SENSORY ANALYSIS

Beyond safety and efficiency characteristics, the sensory analysis is a major criterion of the personal care product objectivation by describing, discriminating and comparing them.

Everyone knows that **organoleptic properties and consumer insights** using direct life experiences are part of the **perception of the efficacy** by the consumers.

The sensory analysis using the human senses are scientific studies based on **experimental design and statistical analysis**. They concern all types of products and are generally conducted following standardised practices and normative process covering the **4 phases of the cosmetics use**: the appearance, the pickup, the application and on final touch.

The sensory analyses use **two types of panels**:

- **The expert ones:** trained assessors who measure the various characteristics of the product or
- **The naïve ones:** subjects who test the products and give their opinion on its characteristics.

How to objectivate the real and perceived efficacy?

Sensory analyses are tailored made protocols to be deeply defined with the testing suppliers in function of the targeted countries. It requires specific equipment such as specialised test rooms (Afnor NFV 09105) with individual cabinets including : fizz network, sink, mirror, standardised daylight neon... The protocols include discriminative tests, descriptive tests for organoleptic properties (appearance, odour, texture) and for perceptions (liking, insights, acceptability, perceived efficacy).



A WORD OF EXPERT



Anne-Marie Pensé-Lhéritier
Professor of formulation
and sensory analysis
Ecole de Biologie Industrielle

Today, the sensory analysis laboratory is the indispensable place for the validation of **the organoleptic characteristics of formulations**. Ensuring the sensory dimension of the application of the product, anticipating a **potential emotion**, these are the objectives of these studies conducted by trained panels. Sometimes a new descriptor (velvet touch, silky...) is studied to better specify a product characteristic and allow a new positioning. This analysis first focused on the skin evolves towards hair or make-up with an assumed **poly-sensory dimension**. It also validates ingredient replacements in formulas that evolve towards ever more naturalness. And then tomorrow, **will sensory analysis be at the crossroads of A.I and digital uses** to study new areas of experimentation?

It may be subdivided into three sections:

- **Analytical testing by the expert panel:** evaluation of the objective facts of the products for the discrimination testing and the descriptive profiling: hedonic test, Product characterisation, Sniff tests, Organoleptic properties: appearance, the odour, the texture. The panelists rate the intensity of each descriptor (previously defined) answering a questionnaire.
- **Difference testing:** evaluation of the subjective facts such as preferences.
- **Descriptive testing:** evaluation of the biochemical and psychological aspects of the holistic sensation focused on the overall appearance of the product.



Other **analyses also enable the sensory evaluation** by naïve panels:

- **Consumer testing** including large (50 or more) panels. It obtains subjective data, or how well products are likely to be accepted. It is simple comparative or more complex questioning.
- **Focus group testing** with small subject number obtain qualitative and deep insight mapping.

The sensory profile with expert panel is useful for all phases of the products development and represents a **sensitive tool** which can be complementary with instrumental measurements, imaging and auto-evaluation.

More and more sensory analysis is combined with other objectivation such as **sweating, heart rate, blood flow, skin temperature** to objectively and accurately appreciate the feelings of subjects. Some psychophysiological and behavioural parameters are also assessed measuring: **EEG, Eye tracking, fEMG, Facial Expressions, Prosody, Gestures...**

Sensory protocols can be simple or complex and represent reproducible, powerful and relevant tools. They explain consumer choices and measure human responses to products and enable the optimization of the product development. Sensory analysis requiring a specific know-how, are valuable set of methods for both researchers and marketing managers and provide them many invaluable results.

Sens'ib, consulting in sensory analysis



Sens'ib supports the players of sensory measurement (analysis of the product through the 5 senses) within the R&D, helps to objectively perceive, **to design and develop products** adapted to their targets and their marketing claims. By adjusting the organoleptic characteristics, the **emotion and the desire to apply the product** are increased and presage a better performance through optimal use.

Sens'ib helps to size studies and select adapted test protocols, in the laboratory or in real-world conditions of use, targets, panels, competing products, questionnaires and data collection... This operational advice allows to build databases for the valuation of product categories, in a vision complementary to the instrumental or clinical measure, considering the **culture and the environmental conditions of the markets**. <http://sensib.fr>

HEALTHY SKIN, BETTER THAN EVER

Personal care and toiletries are now designed to make the skin healthy. Healthy skin is frequently described as beautiful, flawless, glowing, and young. The healthy skin care **maintains the skin in good state, protects it from the external aggression and helps to regulate the bad influences of the internal stresses**. This is a question of **aspect and perceived comfort**; it generates a **globally positive impression** of good health. Skin treatments must correct any abnormality in skin health that deviates from the definition so that it attains the desirable attributes.

Globally these products could help to decrease the imperfection of the skin (acne), the redness, optimise the skin structure and relief, improve the complexion radiance and the oxygenation, increase the tonicity and the elasticity, maintain a good level of hydration and the skin barrier, respect the pH, the epidermis renewal and the microbiota, normalise the sebum, improve the skin softness and comfort.

STUDIED EFFECT	QUANTITATIVE & SEMI-QUANTITATIVE
▶ Decrease of the imperfection of the skin	Quantitative & semi-quantitative: DermaTOP-HE-60 (Eotech), SpectraCam (Newtone Technologies), C-Cube (Pixience), Visioscan and MoistureMap MM 100 (C+K), TVI 60 Skin Damage Visualizer (Wheelsbridge), Antera 3D (Miravex), Visia CR (Canfield), DermaTorqueMeter (Diastron), Clarity 3D Mini (BTBP), Neo Voir II (C-Lab Co.), SIAScope (Medxhealth), Visual & imaging: Videomicroscope (Hirox), Dermascope (Dino-lite), DermLite DL100, Videometer Lab, VEOS DS3 (Canfield), DermaLab Videoscope (Cortex)
▶ Optimize the skin structure	Quantitative & semi-quantitative: LC-OCT (Damae), Antera 3D (Miravex), Vivascope (Mavig), Vivosight (Michelson), Dermascan, Dermcup, Sonde Raman (Horiba Jobin) Visual & imaging: Scanner: DUB*SkinScanner 50/22 (Eotech), Ultrasound WED-2018 (Wed), Vivascope (Mavig), Vivosight (Michelson)
▶ Maintain the skin relief	VisioScan (C+K), AEVA-HE (Eotech), ColorFace (Newtone technologies), Clarity 3D (BTBP), PrimosLite-Primos 3D (Canfield), Visioscan VC 98 (C+K), Dermatop-HE (Eotech), Antera 3D (Miravex), C-Cube (Pixience)
▶ Healthy Face	Photo bench, VsoFace (C+K), Vectra, Olé (Canfield), Primos, AEVA-HE, Dermatop-HE (Eotech), Visia (Canfield), ColorFace (Newtone)
▶ Better Gloss, Translucence, Complexion, Radiance	ColorFace (Newtone technologies), Goniolux (Orion), Skin GlossyMeter (C+K), SkinGlossMeter (Delfin), GPI50 (Seelab), Samba & Salsa (Bossa Nova Vision), DermaLab Gloss (Cortex), Diffuse Reflectance Spectrometry, Observ520* (Innofaith)...
▶ Increase the biomechanical parameters of the skin	Dynaskin (Eotech/Orion), SkinFlex (Orion), Ballistometer (Dia-Stron), Cutometer, Cutiscan and Indentometer IDM800 (C+K), Elastimeter and SkinFibroMeter (Delfin), DermaLab Elasticity (Cortex)
▶ Maintain/restore a good level of hydration	Corneometer and MoistureMap(C+K), DPM 9003 (NovaTech), Moisturemeter SC/D/epiD (Delfin), Dermo (Varenes), Epsilon (Biox), DermaLab (Cortex)
▶ Restore the barrier function	Aquaflux (Biox) Vapometer (Delfin), Tewameter (C+K), Dermalab-TEWL (Cortex),
▶ Optimize the epidermis renewal	QuantiSquame (Monaderm), Choride Dansyl test
▶ Improve the skin softness and confort	Frictionmeter (C+K), Tribology(Ecole Centrale)
▶ Decrease the redness/couperose	Mexameter® MX 18 from (C+K), SkinColorCatch (Delfin), TVI 70 Skin Colour (Wheelsbridge), C-Cube (Pixience)
▶ Normalize the sebum & the lipids	Shotgun Massspectrometry (Lipotype), Quantiseb, Dermelab (Cortex), Sebumeter (C+K), Sebum Scale (Delfin)
▶ Respect the microbiote	NGSequencing 16S rDNA, Phylogene, Syntivia, Inra-GET-IT
▶ Respect the pH	pHmeter (C+K)
▶ Improve the tissue oxygenation	Periflux (Perimed)
▶ Respect the molecular content	LC-OCT (Damae), Sonde Raman (Horiba Jobin), FibroTX (Eotech), Raman spectroscopy gen2-SCA (RiverD), Genomics, metabolomics, proteomics... (Syntivia, Phylogene, Oxiproteomics)

The era of connected devices for skin diagnosis or DNA analysis combined with the personalisation treatment sounds great for healthy skin care. These digital tools enable the development of new products to answer the new requests of the consumers. Is the selfie generation, with the theatre of the daily life of the Millennium's who needs to have instagrammable images of themselves?

Moreover, the healthy skin could be mentally associated to the **clean and natural beauty**. It seems evident that the "healthy skin" care will be formulated with specific attention to the texture and the actives and ingredients sourcing.

« Healthy skin » by CERCO



A « healthy skin » is not only a young skin. A « healthy skin » is a skin without disease. A cosmetic product has a protection effect against external aggression, reduce the

balance of the hydro-lipidic film, has a **soothing effect to more comfortable skin and cover imperfections**. All these actions contribute to having a « healthy skin ». **A multiparametric approach makes sense** in this case: assessment of the skin barrier quality with TEWL measurements or Raman spectroscopy, the hydration rate, the cutaneous pH, the auto-evaluation of the discomforts. All these parameters and their evolution contribute to characterising a « healthy skin ».

<http://www.cercotests.com>

Eurofins C&PC, your partner to ride on the 'Healthy Skin' wave



Nowadays, the healthy skin assessment is part of a more general quest of **Simplicity, Health and Well-being**. Skin is the surest reflection of our lifestyle. The simple habits that totally improve and

achieve healthy skin, encompasses diet, sport, good sleep, less stress, pollution, sun exposures and smoking...

Moreover, gentle skin treatments preserve this healthy aspect and bring customers **feel-good sensations**:

- Mild cleansers eliminate pollution deposits while soothing irritation
 - Soft exfoliation reveals the skin radiance and reduces dullness
 - Moisturisers with SPF & UVA filters protect the skin
- Thanks to dedicated approaches and state-of-the-art equipment, Eurofins C&PC supports you to demonstrate the "healthy skin" benefits of your cosmetics.

<https://www.eurofins.fr>

Partners key figures

4

ways to approach emotional cosmetics for **DERMATEC**

243

inches [9 x 27"] of color calibrated LCD Monitors in **IEC Group**

12

worldwide hair testing laboratories for **EUROFINS**

30%

of new customers for **CERCO** in 2019

97%

of **INTERTEK** users are satisfied

5000

identified proteins with LC-MS/MS by **PHYLOGENE**

Healthy Skin by Skinobs



35 METHODS



60 LABS



IN 34 COUNTRIES

Agenda

14-15 JAN. Cosmetagora Paris Meet us booth 100

31-02 MAR.-AVR. In-Cosmetics global Barcelona Meet us at «BOOST YOUR TEST»

11-13 JUN. ISBS (International Society for Biophysics and Imaging of the Skin) BERLIN

Read the latest news on cosmetics testing.
www.skinobs.com/news

Hair Product Testing: Eurofins C&PC ensures your claims are powerful



Eurofins Cosmetics & Personal Care provides **biophysical testing, clinical testing, and technical support** to a range of clients including formulators, manufacturers, raw ingredients suppliers, retailers and brands for the hair care category.

Eurofins offers the latest testing facilities and techniques for **determining the efficacy of hair care**, supporting products claims and competitive benchmarking:

- **hair care** products (fortifying/repairing effect, detangling effect, moisturizing, nourishing, anti-pollution, volume effect, shine, anti-frizz, conditioning, UV/Thermal protection)
- **hair coloration** (color protection and vibrancy, long-lasting effect)
- **hair styling** products (curl retention, volume)
- plus much more...

www.eurofins.fr

IEC Group consolidates its global assessment of perceived effects around the world



The acquisition of 9 new 27" LCD Monitors EIZO ColorEdge CG277W in France, Japan, China and South Africa, with a SelfCalibration Sensor and an EIZO's patented Digital Uniformity Equalizer technology allows IEC Group to offer completely standardized assessments of photos by **trained assessors or naive subjects** for criteria such as aging signs, radiance, homogeneity or "healthy skin".

With **7 Newton Colorface®** and more than **30,000 subjects in its 8 centers** in France, Bulgaria, South Africa and Asia, this set of equipment gives IEC Group an exceptional and new dynamic to clinical evaluation worldwide in using direct data capture and processing software. www.iecfrance.com/fr

Efficacy of your skincare products with Intertek



Evaluate the efficacy and the safety of your skincare products with:

- **Clinical scoring** for an evaluation by professionals of the sector,
- **Instrumental measurements** for precise evaluation on specific parameters,
- **Self-evaluations** to assess the volunteer's feelings.

Our qualified team allows us to be a force of proposal and to give you some technical and organizational recommendations for each of your innovative studies.

Finally, our experience of more than 20 years and our network of professional experts, with dermatologists, ophthalmologists, beauticians, masseurs, tattooists, clinical trial technicians ..., allows us to **be closer to your expectations** to advise, supervise, implement the application and/or the clinical evaluation of your professional and public products. www.intertek-france.com

The theoretical evaluation of Biodegradability by Expertox



According to the OECD, biodegradability is defined "the alteration of the chemical structure of a substance resulting from a biological action in the loss of specific properties of that substance.

There are **two types of biodegradation**: in the **presence of oxygen** (aerobiosis) or in the **absence of oxygen** (anaerobiosis). Biodegradability is one of the criteria for the **EU Ecolabel**. The requirements for this assessment are described on annex of the commission decision of 9 Dec 2014 for rinse-off cosmetic products. The **theoretical evaluation of biodegradability** is based on

the calculation of the two values: the total content of the product of organic substances used in the composition of the product which are not biodegradable under aerobic conditions **[ONBDA]** and under anaerobic conditions **[ONBDan]**. www.expertox.eu

Emotional cosmetic: a complementary approach by Dermatec, CPPI & HUMAAN

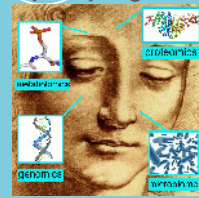


In the service of the beauty and well-being of people, with or without pathology, Dermatec is interested in investigation studies of the person in **all his dimensions: physical, mental and emotional**. The protocols include clinic, physiology, biology, dermal bioengineering, neuroscience, psycho-dermatology, real life.... The Dermatec-Humâan synergy for **emotional cosmetics evaluation** is naturally built around two major axes: "**Emotions & skin**" and "**cosmetic support & wellness care**". Their future projects are focus on methods of qualitative, quantitative and instrumental evaluation to the emotional state of persons involved in cosmetic studies, and Integrative cosmetics for an overall care of the person. www.dermatec-lyon.com

..... Skinobs Partners of this ZOOM#14



Fully integrated substantiation studies in cosmetics by Phylogene

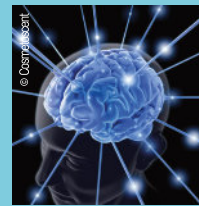


To achieve a complete understanding of cellular metabolism activities in personal care activities, **the omics** such as **genomics, proteomics**

or metabolomics are now essential. First, the best model, ex-vivo, in-vitro, or subject sampling is defined. Coupled with proteomics, phosphoproteomics the overall expression variations of the proteins giving a good indicator of a **healthy skin**. For **stresses such as UV, blue light or pollution on the skin**, omics studies using RedOxomics™ combined with OxDeep™ index, measure the level of the **protein oxidation**. PHYLOGENE also investigates the new domain of skin microbiota. The several techniques evaluate the impact of the treatment on the microbiome composition and diversity and the **product interactions** of host and microbiome simultaneously.

<http://ms.phylogene.com> - <http://www.phylogene.com>

Contribution of the neurosciences in the cosmetics evaluation by Cosmetoscent



Cosmetics aims to trigger our emotions and improve our well-being, thanks to the effect of textures and fragrances. The contribution of the neurosciences can

provide scientists with a detailed description of the emotional properties of cosmetics by studying their psychic and physiological influences. "How does the use of a cosmetic product can change human behaviour?" Emotions, universal part of the human, instantly provoke body reactions that can be measured objectively by different methods: eye tracking, skin conductance, brain activity, heart rate or facial expressions. This relatively new scientific approach allows us to evaluate the emotions that cosmetics provide about the well-being of the consumer. www.cosmetoscent.com

The New Skinobs Platform is Preclinical

2D Cells | 3D Cells | Skins Models | 3D Print

This portal dedicated to pre-clinical testing is currently under development.

You will find your testing partners for the **safety and efficacy assays**.

Pre-register on www.skinobs.com

Contact

contact@skinobs.com

www.skinobs.com

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