

# addiACTIVE

on earth

fallwinter2007

#6



senses and Sciences



GATTEFOSSÉ

# EMULIUM® KAPPA

NATURAL SENSUALITY



GATTEFOSSÉ has developed a new, **natural, PEG-free emulsifier** bringing extreme, **luxurious softness** to your formulations. EMULIUM® KAPPA is based on a patented technology of hydrophilized vegetable waxes that can absorb up to 6 times their weight in water. EMULIUM® KAPPA boosts moisturizing capacity, providing the skin with **a unique, cushion-soft feel and long lasting comfort.**

# Sensory Analysis

Giving sense to day-to-day routine: here is the true challenge for all.

We live in a poly-sensorial world where our five senses are endlessly on the alert. It seemed essential to dedicate one issue of AddiActive On Earth to “sensoriality” and our pursuit of such an evasive notion.

Analyzing, rationalizing the sensations brought by the use of any product; cosmetic, food or other, has become an intrinsic part of its development and a major drive for innovation.

The anticipation of a consumer's somatic reactions when in the presence of an item, the ability to fine-tune its shape, size, color or smell can only be viewed as an essential competitive edge in this age of hyper-consumerism.

Sensory Analysis - the scientific study of such reactions - has, like any other science, its experts and its vocabulary.

Though our main goal in this issue will be to present our readers with such a discipline in the fields of cosmetics and personal care product development; we thought it an interesting idea to bring to attention a different domain of application of Sensory analysis, one that, as a France-based entity, we just could not ignore... CEnology or Enology, also know as wine-tasting.

We hope you will “savour” the following articles and discover among the variety of themes discussed, from truly technical to utterly trendy, treasures of creativity and surprise.

*S. Moyrand*

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# EN vogue



## interview

**A word from Olivier Raffin, œnologist advisor for Cœnofrance, giving us a quick tour of a different type of sensory analysis: wine tasting.**

**Is œnology comparable to cosmetic formulation?**

**O. Raffin** Cœnology is a fifty years old science. Contrary to what many believe œnology represents a global approach to wine, starting with a deep understanding of its nature, its ageing process and storage conditions, including harvest and wine making techniques.

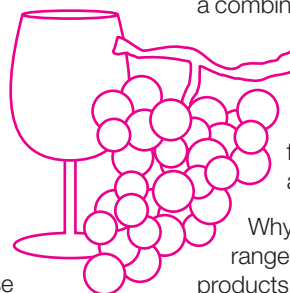
Truly œnology is medicine for the wine! Developed to “cure” a sick wine... œnologists search endlessly for a way to optimize the wine making process.

Hence, as a formulator would, œnologists source the best grapes and the most adapted formulas.

They may sometimes even prescribe the use of various maturing/ageing auxiliaries.

Genesis Lift®, for example, will *smooth* the wine, to give it *robustness* or restore *balance*! It is constituted of yeast mannoproteins.

As for Cœnotannin Touch®, it *darkens* wine, bringing more *texture* and *body*!



**Could we say that we are leaning towards a sophistication of wines, searching for the perfect blend?**

**O. Raffin** In a way, today’s methods allow us to closely study certain maturation processes and create more sophisticated wines. In parallel, the wine industry is more and more in tune with its customers developing wines specifically adapted to various market segments: light and fruity wines for the younger crowd; soft and “moelleux” for women; sophisticated, complex wines for wine-lovers; even regional or organic wines... Marketing and communication around wine, still unknown several years ago, are starting to evolve in response to new consumer expectations.

**What will œnology be like tomorrow?**

**O. Raffin** Some countries, such as the USA, are more advanced in their capacity to echo consumers’ needs. France reacts more slowly. We are lucky to possess a magnificent “terroir” (i.e. a term describing a combination of environmental factors that determine the quality of the wine, these factors are basically soil, slope and climate), and a unique know-how. Hence, France should allow its traditional ways to change for more modernity without losing its authenticity!

Why not imagine the creation of a permanent range of wines as well as more temporary products... “Collections” which would evolve with each vintage or trends, etc. all with a lowered alcohol level (going from 13-14° to 11-12°) ?

## Sensorial analysis - œnology analogy!

**Attack:** technical term (see also “middle-palate” and “finish” or “aftertaste”) for the sequence of sensations as the wine hits your palate. This alludes to impression perceived at the first taste. May be subtle, smooth, robust, or sour...  
 ▶ Comparable to the “pick-up” of a cream, the sensation perceived at the tip of the fingers.

**Middle-palate:** moment when all aromas of the wine come forward, these are usually described as per the element they best mimic (ex. mushroom, berries, banana, etc.).  
 ▶ Sensations perceived at the beginning of the application upon the skin: freshness, softness, creaminess...

**Finish:** A wine-taster’s synonym for “aftertaste.” i.e., the flavors remaining in your mouth after the wine is swallowed. May be astringent, tannic, fresh, cloying, flabby, full-bodied...

▶ Sensations perceived during application: thickness, dry or greasy feels...

**Length:** the time that the “finish” or “aftertaste” (see above) persists in the mouth; generally, the greater the length, the better the wine.

▶ Sensations perceived after absorption of the product: thickness of the residual film, fine, soft, non-sticky...

EN VOGUE

# On the Cover

## At the heart of all beauty secrets...



Quite often current cosmetic creams and milks contain an excess of 15 different ingredients with specific functions: hydrophilic and lipophilic compounds - evidently - but also emulsifiers (non-ionic, anionic, cationic, amphoteric), additives such as co-emulsifiers, thickening agents, preservative agents or antioxidants... and active ingredients.

Such combinations, in the Personal Care or Pharmaceutical industries, make each formula unique and often... a trade secret!

The large number of diversified ingredients, or **Excipients**, in itself seems to indicate the necessity to utilize specific systems which not only have to comply with legal requirements but also have to secure physical and chemical stability of cosmetic preparations over a period of months.

The emulsifier, consisting of hydrophilic and lipophilic parts, when it is added to the mixture of water and oil, is arranged on the interface of oil and water droplets in suspension, thus anchoring its hydrophilic part into water and its lipophilic part into oil. On the interface surfaces water/air and oil/air, the hydrophilic part and the lipophilic part are adsorbed, thus reducing the interfacial tension. That is, the force to separate the oil and water is weakened, resulting in the easily mixing of oil and water and the creation of an emulsion.

Emulsifiers are often mixtures of several surfactants, each blend specific of a final texture and range of applications.

Within glyceryl esters the number, position, saturation and length of the fatty acids determine the emulsifying potential, the texture of the finished product and may sometimes even show targeted functionalities (moisturization...).

Texture, along with odor and color, induces different sensations in the user; it plays a major role in attracting the consumer and seducing him.

Texture is also important in the perception of efficacy of the product. In fact, a sensorially-pleasant product will contribute to the immediate efficacy.

These renewed moments of pleasure, each time the cosmetic is applied, are paramount to its commercial success maybe more so than efficacy.

Such potential for diversity and sophistication requires study; hence Sensory Analysis has become an essential phase in research and development departments of large cosmetic companies.

For manufacturers wanting to differentiate their products and substantiate their claims, texture analysis is a valuable tool. How is this science used by manufacturers or raw material suppliers?

Can being in touch with our feelings really become a competitive edge?



## Timeline of Gattefossé's use of Sensory Analysis

### Sensorial history of Gattefossé

- 1996 ▶ Set up of the sensory panel
- 1998 ▶ Evaluation of the sensory properties of pure emollients: Softcutol® O/B
- 2000 ▶ Study of the sensory impact in formulation of an O/W emulsifier: Emulium® Delta
- 2001 ▶ Sensory Comparison of two O/W emulsifiers: Emulium 22 vs Emulium Delta
- 2002 ▶ First sensory trainings - Focus on methods & vocabulary
- 2005 ▶ A novel approach in linking sensory analysis to the Gattefossé product range "CubiSens® Seminars"
- 2006 ▶ Launch of Emulium® Kappa: a natural O/W emulsifier created through sensory analysis to mimic the feel of silicone elastomers
- 2007 ▶ Implementation of a sensorial profile database: a new texture classification enabling rapid selection of a targeted formulation - Use of sensory analysis to quickly respond to Marketing briefs.

# THE BUZZ



## Active textures, extraordinary sensations...

Consumers' expectations and choice in terms of beauty products are lead by sensoriality. Textures must be more and more pleasant, comfortable, cool, surprising or fresh when applied onto the skin.

Cosmetic brands made a major effort in creating products with as much **poly-sensorial appeal** as possible.

Here is a selection of these most recently launched products. A look for innovation in texture sensation when applied onto the skin or even the product packaging...

### Blush - O-GLOW, smashbox

Experience instant chemistry as your complexion is transformed from so-so to oh-so-glowing!

**The first intuitive blush...** This clear gel reacts with your personal skin chemistry to turn cheeks the exact color you blush, naturally in just seconds! O-GLOW works on every skin tone, from the lightest to the darkest, to give everyone a naturally gorgeous glow.



When applied, your skin's moisture activates the energizing Goji Berry-C Complex™. It creates a **microcirculatory effect**, producing a rosy flush that lasts all day !

### Re:Set - Icy Beauty

Jet lag, overnights or overwork disturb the skin's circadian rhythm...

In those moments when our rhythm is distorted, the skin shows signs of weakness: the epidermis is dehydrated, the complexion is faded, the eye contour is swollen, wrinkles become more visible...

Re:Set is a cosmetic innovation highly concentrated with ingredients that resynchronise the skin on its biological rhythm bringing energy and nutrients required for a fresh and rested complexion.

A technological innovation for men and women, concentrated in a **self-cooling monodose** to erase the signs of tiredness at any moment !

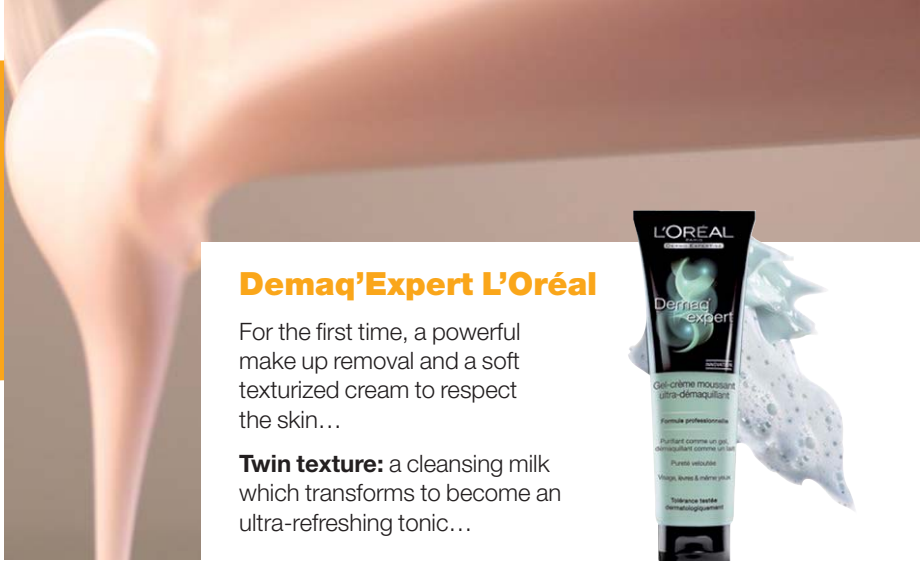


### Myokine Fusio Film - Vichy

**Neither patch nor serum**, Fusio-Film is a very thin pink and flexible paper film to be applied on the face for a targeted anti-wrinkle care. It is 10 times more efficient than a cream thanks to its high concentration in Adenoxine™ MD, a specific anti-wrinkle complex developed by Vichy. For the first time, the adenoxine is delivered in its pure state directly on the targeted wrinkled zone to better correct it.



THE BUZZ



**Demaq'Expert L'Oréal**

For the first time, a powerful make up removal and a soft texturized cream to respect the skin...

**Twin texture:** a cleansing milk which transforms to become an ultra-refreshing tonic...



**Neutrogena® Pure Glow™ daily Cleansing Cushions**

Experience the essential benefits of a facial at your fingertips - deep cleansing, exfoliating, moisturizing and massage.

Clinically proven to give your skin the same results as a facial, each **dual-textured cleansing cushion** has separate fabrics and formulas on either side. The foamy beaded side cleanses deep down to remove dirt, oil and makeup while ultra-fine exfoliators sweep away pore-clogging residue. The velvety striped side is infused with beta hydroxy and skin conditioners that refine and soften skin.



**ID Cosmetics - I Kiss**

ID Cosmetics invents I-Kiss, the "**Kleenex lipstick**", a convenient color for upwardly mobile ladies.

These paper thin kiss on color cards deposits a shiny dose of vitamin E enriched color for, a colorful, kissable pout.

Each of the 30 kiss on color cards fits easily in to purse or pocket and is smudge and heat resistant.

**Clarins: baume + jeune + longtemps**



Baume+jeune+longtemps (younger longer) is more than just another anti-ageing skin care treatment !

No miracle active ingredients or high tech expertise inside but one observation : skin youth depends on two networks, blood micro-circulation and cutaneous nerve ending that must be reactivated as soon as the first signs of ageing appear...

The texture, rather dense and elastic ("**chewing-gum texture**") as experts say) enables an adapted application with little light taps, to stimulate the blood flow for immediate results and long term effects on the skin equilibrium and glow.

**Dior skin Airflash**



**The spray foundation** that revolutionizes the way to make up your face.

The whisper like beauty routine of a spray for an incredible feeling of freshness and a very

fine texture thanks to a unique diffusion technology.



**Lyofal : innovative lyophilized cosmetic products for body and skin care**

Lyopatch: Patches for eye and lip contour which, in contact with water, are transformed in an **insoluble fresh gel** ideal for a relaxing moment...

# THE science BOOK

## Sensory analysis: an unbiased approach to “sensations”



**Sensoriality is often a major criterion in the development of products; in personal care of course with texture, color and smell as well as in food, textile, packaging, decoration, even architecture.**

But what makes sensory analysis so important?

Sensations from hearing, vision, taste, smell, touch, pressure, and movement provide the input to the brain which is organized for movement, cognition and learning.

Sensory integration is a term used to describe the way in which the brain sorts out and organizes the many sensations we receive, attaching meaning to sensations by comparing them with past experiences. It is by definition subjective and cannot be studied using traditional instrumental methods.

Sensory analysis is “the systematic evaluation of the sensory attributes of a product carried out by assessors, a trained or randomly selected panel of individuals”. The term sensory is defined in an ISO standard (International Standards Organisation, 1992) as “relating senses”. Hence, sensory assessment is a scientific discipline, based on the study of the properties of a substance using the senses.

It was first used and recognized by the Food industry in the 50’s, followed by the fragrance industry and the personal care industry in the 80’s with L’Oréal and Christian Dior setting up their own panels of experts and using sensory analysis on a regular basis.

Gattefossé was amongst the first raw material suppliers to train its own sensory panelists and to use sensory analysis at every level of product development.

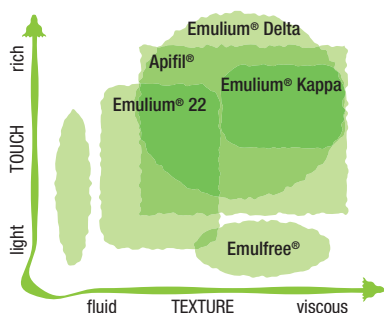


Three different methods are currently used to assess products:

- **Affective/hedonic tests:** non trained panelists give their opinion about a product, i.e. whether they like or not the product. These tests are consumer tests, performed on a large population (usually used before launching a product on the market).
- **Analytical analysis:** used by a trained panel of about 10 to 30 people, the intensities of certain attributes are measured. The advantage of this method is the cost and the fact that it allows to obtain quick results that are precise and reproducible...
- **Preference mapping:** these tests enable to link both first methods and determine “consumer targets” to understand their preferences and offer ‘ideal’ textures according to these preferences...

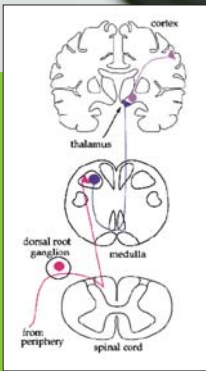
Such a powerful tool is of great use to marketing departments of finished product or raw material producers alike; but it has also become a key element in R&D processes.

Gattefossé uses sensory analysis both as a marketing tool to provide adapted solutions to customers’ expectations and as a research aid to increase the competitive edge of future developments.



*Relative mapping of several Gattefossé excipients*





**Somatic neurology**  
**The mechanism of TOUCH**

**Somatic sensation** consists of the various **sensory receptors** that trigger the experiences labelled as **touch** or **pressure**, **temperature** (warm or cold), **pain** (including **itch** and **tickle**), and the sensations of muscle movement and joint position including **posture**, **movement**, and facial expression (collectively also called **proprioception**).

A more complex concept comes into play when the term is used in reference to human beings. The sense of touch is mediated by the **somatosensory system**.

Overall, the pathway looks like this: a **mechanoreceptor** is a **sensory receptor** that responds to mechanical pressure or distortion. There are four main types in the glabrous skin of humans; they can be separated into categories based on their rates of adaptivity. Receptors that adapt quickly (i.e. quickly return to a normal pulse rate) are referred to as “phasic”.

Those receptors that are slow to return to their normal firing rate are called “tonic”. Phasic mechanoreceptors are useful in sensing such things as texture, vibrations, etc.; whereas tonic receptors are useful for temperature and proprioception among others: Pacinian corpuscles (Rapid Adapting type II - RAI), Meissner's corpuscles (RAI), Merkel's discs (SAI), and Ruffini corpuscles (SAII).

Cutaneous mechanoreceptors with small, precise **receptive fields** are found in areas needing accurate tactition (e.g. the fingertips). In the fingertips and lips, innervation density of slowly adapting type 1 (SAI) and rapidly adapting type 1 (RAI) mechanoreceptors are greatly increased.

These two types of mechanoreceptors have small discrete receptive fields and are thought to underly most low threshold use of the fingers in assessing texture, surface slip, and flutter. Mechanoreceptors found in areas of the body with less tactile acuity tend to have larger **receptive fields**.

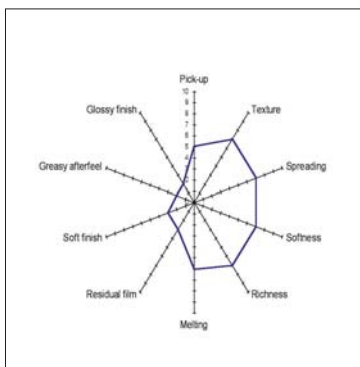
The mechanoreceptors in the skin have been investigated for their roles in perception. The SAI type mechanoreceptor, with the Merkel cell end-organ, underlies the perception of form and roughness on the skin. The RAI type mechanoreceptor underlies the perception of flutter, and slip on the skin.

**Case Study n°1: a marketing brief describing the characteristics of a finished product is received. It is decrypted, leading to an “objective” characterization of the finished product-to-be and compared with existing sensory mappings created by Gattefossé for their ingredients.**

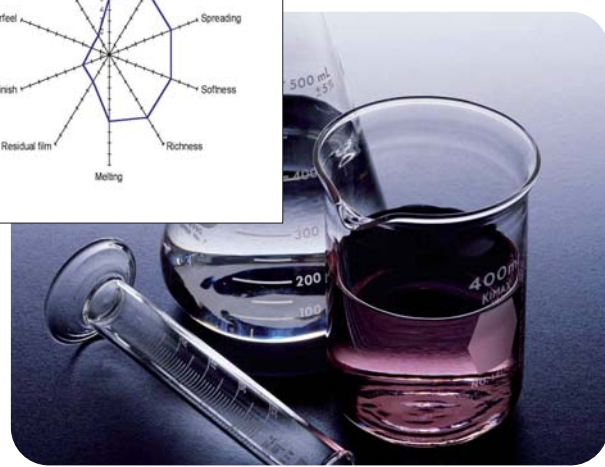
*“Goal: a natural and creamy texture to soothe the most sensitive skin types”*

The expected key benefits, sensorial, physical or physiological are first listed (see “Theoretical mapping” right):

- an excellent tolerance profile to nurture the most delicate skin,
- ideally, a vegetable origin for all natural formulas,
- little or No film residue; no greasy after-feel and shine allowing the use of make-up after application,
- easy to apply: High spreadability and melting to reduce friction and possible irritation,
- high Creaminess and softness to soothe,
- substantial Texture for a cushioning effect upon application.



*Theoretical mapping*

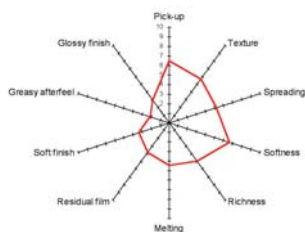


# THE science BOOK

Next, these characteristics are compared with those of existing formulas and the corresponding excipients within the database.

Ingredient of choice for green cosmetics, Plurol® Stearique is an O/W emulsifier which offers an excellent tolerance profile, a vegetable origin (food grade), and a pleasant skin feel with mat and powdery finish. It naturally comes forth as a strong contender in our study.

*Regenerative cream (MM8036B)*



Used at 5% in a formula in conjunction with 2% Cetyl alcohol and 0.5% Glyceryl Stearate as texture and thickening agents respectively, the sensorial characteristics are very similar to those described in the brief.

It is also very convenient for cost-efficient formulations.

Plurol® Stearique is not limited to green products and sensitive skin products, its broad functionality also benefits oily skin care lines, eye contour formulations, after-shave products, after sun lines, etc.

Sensory mappings are now part of all well-documented product brochures and presentations, and several comparative tools are used to by-pass unnecessary sample formulas to busy formulation labs.

Such extensive knowledge of the sensory analysis process also allows Gattefossé to link texture profiles to typical molecular structures, thus reversing the path from "Finished product mapping" to "New ingredient".

## Identity Card

*Plurol® Stearique*

**INCI name:** Polyglyceryl-6 Distearate

### Function:

O/W emulsifier, Practical HLB: 9

**PH:** 5.5 to 11

**Use level:** 5 %

### Fomulation:

From lotions to creams

### Sensoriality:

Ivory emulsions, creamy textures, presence during application, powdery touch, light residual film

### Specificities:

100 % Natural - PEG free - adapted for green lines

Development was usually conducted through trial/error methods which involved selecting various prototypes and testing them.

With this new method, existing emulsifiers from the range were dissected to assess which "parts" of the compound gave them their known characteristics and functionalities.

It was discovered that certain waxes and polyols possessed an interesting feel and that, for example, short length polyunsaturated esters were dry/non-greasy to the touch.

Hence, a database was constituted.

Each component or compound is not necessarily tested for all functionalities or characteristics, and determination of key criteria is paramount prior to the launch of a screening process.

Multidimensional statistical analysis is a novel tool used by research scientists in which each criterion becomes a vector (or axis) on the mapping diagram and all trial formulas are being placed within the diagram for comparison and deduction of a governing sensorial environment.

Such a method allows the research team to widen the characterization of the ingredient tested to several possible applications combining functional AND sensorial profiles.



THE SCIENCE BOOK



**Case Study n°2: relying on a technical and marketing briefs describing a “specific emulsifier-to-be”, engineers are able to “reverse develop” the optimal structural ingredient.**

*“Goal: to develop a natural emulsifier from vegetable origin - PEG-free, with a unique sensorial identity, similar to that of silicone elastomers”*

Engineers first worked on a combination of several plant waxes and then studied which sensory characteristics each wax could bring to the final texture or what type of chemical modifications could help create the desired texture.

Sensory analysis helped determine which wax they would use to meet their objective:

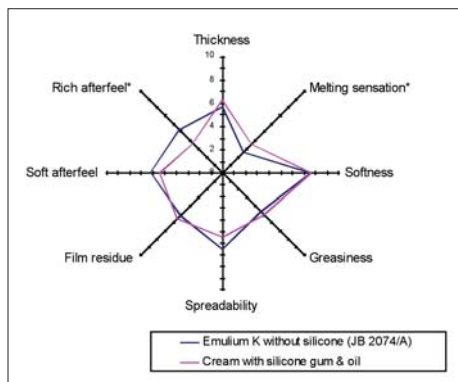
**Rice bran:** its perfectly defined composition and hardness contribute to the final powdery touch



**Candelilla:** Its thickening power adds richness to the formulas, its ability to retain water is also a key element of an active texture.

**Jojoba:** a unique liquid wax, it allows easy spreading and ensures softness

Bringing texture and stability to a cosmetic formulation through plant waxes has been the main challenge in the development of this new emulsifier.



Comparative mapping : Emulium® Kappa vs Silicone Elastomer

In order to ease the use of the plant waxes in formulation, Gattefossé branched each plant wax with polyglycerol-3, using esterification reaction.

This combination has produced an ingredient with a unique butter consistency.

To guarantee texture, emulsification and stability, Gattefossé’s Oleochemistry engineers complemented the wax derivative with Sodium Stearoyl Lactylate.

Thanks to its unique composition, this wax-derived emulsifier enhances the moisturizing potential of formulas by means of a dual effect:

- the moisturizing effect of the SSL component,
- the anti-dehydration protection of the wax derivative.

This specific structure leads to Emulium® Kappa and is characterized by a very unique “cushion effect” texture. This O/W emulsifier, stable under heat, with substantiated efficacy as an active texture offers a unique sensorial identity, comparable to that of silicone elastomers.

**Identity Card**  
*Emulium® Kappa*

**INCI name:** Candelilla/Jojoba/Rice Bran Polyglycerol-3 Esters (and) Glyceryl Stearate (and) Cetearyl Alcohol (and) Sodium Stearoyl Lactylate

**Function:**  
O/W emulsifier

**PH:** 5 to 10

**Use level:** 4 to 6 %

**Fomulation:**  
Pour the oil phase into the water phase (70-75°C); High-shear during emulsification (rotor-stator) – 2500 rpm for 10 minutes; Natural gelling agent necessary

**Sensoriality:**  
Very glossy, rich and luxury textures; long playtime –Extreme softness and cushion feel

**Specificities:**  
Active textures (Moisturizing); PEG-free; feel comparable to that of silicone elastomers

# formulæ

## EYE CONTOUR CREAM. For optimum comfort, an extremely soft cream to help prevent the appearance of crow's feet wrinkles... (JB 2104/D)

INGREDIENTS	INCI DESIGNATION	% W/W	INGREDIENT FUNCTION
<b>Phase 1</b>			
EMULIUM <sup>®</sup> KAPPA (1)	CANDELILLA/JOJOBA/RICE BRAN POLYGLYCERYL-3 ESTERS (and) GLYCERYL STEARATE (and) CETEARYL ALCOHOL (and) SODIUM STEAROYL LACTYLATE	6.00	Emulsifier o/w
CETIOL B (2)	DIBUTYL ADIPATE	5.00	Emollient
PHENONIP (3)	PHENOXYETHANOL (AND) METHYLPARABEN (AND) BUTYLPARABEN (AND) ETHYLPARABEN (AND) PROPYLPARABEN	0.70	Preservative
LABRAFACT <sup>™</sup> CC (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE	7.50	Emollient
LANETTE 18	STEARYL ALCOHOL	0.70	Thickener
MC 30 (4)	HYDROGENATED POLYISOBUTENE	4.00	Emollient
LIPOCIRE <sup>™</sup> A (1)	HYDROGENATED PALM KERNEL GLYCERIDES (AND) HYDROGENATED PALM GLYCERIDES	3.50	Feeling agent
<b>Phase 2</b>			
GLYCERIN	GLYCERIN	10.00	Moisturizer
VEEGUM PLUS (5)	MAGNESIUM ALUMINIUM SILICATE (and) CELLULOSE GUM	1.00	Gelling agent
DEMINERALIZED WATER	WATER	19.00	
<b>Phase 3</b>			
AVICEL PC 611 (6)	MYCROCRISTALLINE CELLULOSE (and) CELLULOSE GUM	1.00	Gelling agent
RHODICARE S (7)	XANTHAN GUM	0.20	Gelling agent
DEMINERALIZED WATER	WATER	38.50	
<b>Phase 4</b>			
COLORONA MAGENTA (8)	MICA (and) TITANIUM DIOXIDE (and) CARMINE	0.10	Dye
PERFUME MURMURE RS 10071 (9)		0.60	Perfume
<b>Phase 5</b>			
CHLORPHENESIN	CHLORPHENESIN	0.20	Preservative
GATULINE <sup>®</sup> AGE DEFENSE (1)	JUGLANS REGIA (WALNUT) SEED EXTRACT	2.00	Skin protectant
		100.00	

(1) GATTEFOSSE SA / (2) COGNIS / (3) NIPA / (4) SOPHIM / (5) VANDERBILT / (6) FMC / (7) RHODIA / (8) MERCK / (9) TECHNICO-FLOR

**APPEARANCE:** pink cream.

**MANUFACTURING PROCESS:** under stirring, disperse Veegum into water + glycerin of phase II, heated to 60°C. Under stirring, disperse Rhodicare into phase III water heated to 60°C, continue stirring for about 10mn, then add Avicel, stir again for about 5 mn, and leave to stand. Mix II and III. Prepare I and heat to 75°C. Heat II-III to 75°C. Under rapid mixing Rotor/Stator 2000 rd/mn and under vacuum, add I to II-III. Maintain temperature > 65°C. Continue rapid mixing for about 10 mn. Cool under planetary stirring and at about 35°C, add the other ingredients.

**PROPERTIES:** stability trials in progress. pH:6.59

## YOUTH AGE DEFENSE. 100 % natural, this formula protects against environmental aggressions and slows down the ageing process with its active ingredient Gatuline<sup>®</sup> Age Defense<sup>2</sup>. Its texture is creamy with a mat and powdery finish for very soft after-feel sensations. (JB 2225/D)

<b>Phase 1</b>			
PLUROL <sup>®</sup> STEARIQUE WL 1009 (1)	POLYGLYCERYL-6 DISTEARATE	5.00	Peg-free o/w emuls.
LABRAFACT <sup>™</sup> CC (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE	4.00	Emollient
CROPURE BABASSU (2)	BABASSU(ORBIGNYA OLEIFERA)OIL	5.00	Nourishing active
CETEARYL ALCOHOL	CETEARYL ALCOHOL	1.00	Thickener
SHEA BUTTER	BUTYROSPERMUM PARKII (SHEA BUTTER)	2.00	Nourishing active
<b>Phase 2</b>			
DEMINERALIZED WATER	WATER	75.30	
GLYCERIN	GLYCERIN	2.50	Moisturizer
RHODICARE S (3)	XANTHAN GUM	0.60	Gelling agent
AVICEL PC 611 (4)	MYCROCRISTALLINE CELLULOSE (and) CELLULOSE GUM	1.00	Gelling agent
<b>Phase 3</b>			
GEOGARD 221 (5)	DEHYDROACETIC ACID (and) BENZYL ALCOHOL	1.00	Preservative
<b>Phase 4</b>			
ESSENCE DE MANDARINE (6)		0.60	Perfume
GATULINE <sup>®</sup> AGE DEFENSE <sup>2</sup> (1)	JUGLANS REGIA (WALNUT) SEED EXTRACT	2.00	Skin protectant
		100.00	

(1) GATTEFOSSE SA / (2) CRODA / (3) RHODIA / (4) FMC / (5) LONZA / (6) SAHUT MIREILLE

**APPEARANCE:** beige emulsion

**MANUFACTURING PROCESS:** disperse Avicel into phase II water. Mix Rhodicare and Glycerin and add it to phase II. Heat I and II to 75°C. Under rapid mixing (Rotor/Stator 3000 rpm), add I to II. Maintain rapid mixing for about 10 mn. Cool under planetary stirring and at about 35°C, add phase III and IV ingredients. Complete cooling.

**PROPERTIES:** pH = 5.5

# formulæe

**MATURE SKIN CREAM. A natural and nourishing formula specifically designed for mature skin with its BIO active ingredient Gatuline® RC BIO (Ecocert Label) and with Emulium® Kappa which provides a unique “cushion” effect.** (MM 8425/A)

INGREDIENTS	INCI DESIGNATION	% W/W	INGREDIENT FUNCTION
<b>Phase 1</b>			
EMULIUM® KAPPA (1)	CANDELILLA/JOJOBA/RICE BRAN POLYGLYCERYL-3 ESTERS (and) GLYCERYL STEARATE (and) CETEARYL ALCOHOL (and) SODIUM STEAROYL LACTYLATE	6.00	Emulsifier o/w
LANETTE 22 (2)	BEHENYL ALCOHOL	2.50	Thickener
PHYTOSQUALAN (3) SQUALANE 4.00 Moisturizer			
ORGANIC SHEA BUTTER (3)	BUTYROSPERMUM PARKII (SHEA BUTTER)	3.00	Nourishing active
LABRAFACTM CC (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE	3.00	Emollient
EUTANOL G (2)	OCTYLDODECANOL	4.00	Emollient
ORGANIC JOJOBA OIL (3)	SIMMONDSIA CHINENSIS (JOJOBA) SEED OIL	3.00	Nourishing active
VITAMIN E ACETATE (4)	TOCOPHERYL ACETATE	0.50	F.R. scavenger
GELEOL™ (1)	GLYCERYL STEARATE	1.00	Thickener
<b>Phase 2</b>			
GLYCERIN	GLYCERIN	5.00	Moisturizer
DEMINERALIZED WATER	WATER	60.50	
AVICEL PC 591 (5)	MICROCRYSTALLINE CELLULOSE (AND) CELLULOSE GUM	2.50	Gelling agent
RHODICARE S (6)	XANTHAN GUM	0.20	Gelling agent
<b>Phase 3</b>			
GEOGARD 221 (7)	DEHYDROACETIC ACID (and) BENZYL ALCOHOL	0.80	Preservative
GATULINE® RC BIO (1)	FAGUS SYLVATICA EXTRACT	4.00	Regeneration
		100.00	

(1) GATTEFOSSE SA / (2) COGNIS / (3) SOPHIM / (4) DSM Nutritional Products / (5) FMC / (6) RHODIA / (7) LONZA

**APPEARANCE:** bright and ivory cream.

**MANUFACTURING PROCESS:** under rapid mixing, disperse Avicel into water + glycerin, then Rhodicare. Under stirring, add I heated to 75°C to II heated to 75°C. Maintain under rapid mixing for 10 mn. Cool under stirring and at about 35°C, add the components of III. Complete cooling.

**PROPERTIES:** pH = 5.4 ± 0.5

**FACIAL CONTOURING CREAM. Designed for the face, neck and décolleté, this integral remodeling fluid reshapes the volumes and contours of the skin.** (MM 8439)

INGREDIENTS	INCI DESIGNATION	% W/W	INGREDIENT FUNCTION
<b>Phase 1</b>			
EMULIUM® DELTA (1)	CETYL ALCOHOL (AND) GLYCERYL STEARATE (AND) PEG-75 STEARATE (AND) CETETH-20 (AND) STEARETH-20	3.00	Emulsifier o/w
DOW CORNING 345 FLUID (2)	CYCLOPENTASILOXANE (AND) CYCLOHEXASILOXANE	4.00	Feeling agent
LABRAFACTM CC (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE	3.00	Emollient
PPPG (1)	PROPYLENE GLYCOL		
	DIPELARGONATE	4.00	Emollient
VITAMIN E ACETATE (3)	TOCOPHERYL ACETATE	1.00	F.R. scavenger
JOJOBA OIL	SIMMONDSIA CHINENSIS (JOJOBA) SEED OIL	1.50	Nourishing active
<b>Phase 2</b>			
DEMINERALIZED WATER	WATER	70.85	
CARBOPOL® ETD 2050 (4)	CARBOMER	0.15	Gelling agent
RHODICARE S (5)	XANTHAN GUM	0.30	Gelling agent
PHENONIP (6)	PHENOXYETHANOL (AND) METHYLPARABEN (AND) BUTYLPARABEN (AND) ETHYLPARABEN (AND) PROPYLPARABEN	0.70	Preservative
<b>Phase 3</b>			
SODIUM HYDROXIDE (10 % SOL.)	SODIUM HYDROXIDE	0.30	Neutralizing agent
GATULINE® IN-TENSE (1)	CAPRYLIC/CAPRIC TRIGLYCERIDE (AND) SPILANTHES ACMELLA FLOWER EXTRACT	2.00	Anti-age
<b>Phase 4</b>			
GLYCERIN	GLYCERIN	4.00	Moisturizer
BUTYLENE	GLYCOL BUTYLENE GLYCOL	2.00	Moisturizer
DRY-FLO PLUS (7)	ALUMINIUM STARCH OCTENYL SUCCINATE	3.00	Feeling agent
<b>Phase 5</b>			
PERFUME BEAUTY (8)		0.20	Perfume
		100.00	

(1) GATTEFOSSE SA / (2) DOW CORNING / (3) DSM Nutritional Products / (4) NOVEON / (5) RHODIA / (6) NIPA / (7) NATIONAL STARCH AND CHEMICAL LTD / (8) FIRMENICH

**APPEARANCE:** bright and ivory emulsion

**MANUFACTURING PROCESS:** disperse Carbopol ETD 2050, then Rhodicare S into water. Under stirring, add I heated to 75°C to II heated to 75°C. Maintain under rapid mixing (Rotor Stator 2 500 rpm) for 3 mn. Add the components of III. Cool under normal stirring and at about 45°C, add IV. Around 35°C, add V. Complete cooling.

**PROPERTIES:** pH = 5.6 ± 0.5

# showcase

## Gatuline® In-Tense instant remodeling active ingredient

 **A different approach to lifting efficacy based on a natural active ingredient**

Facial contouring, body firming and wrinkle reduction have become strong claims of the anti-ageing care market. The common target of all these manifestations is the skin architecture and more precisely the extracellular matrix.

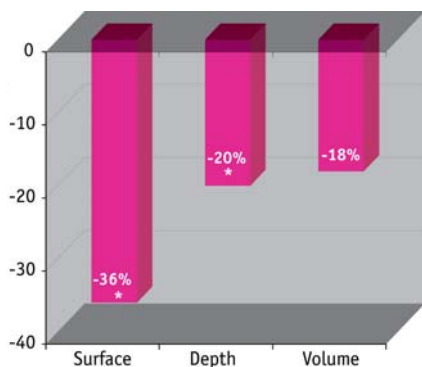
A new solution from Gattefossé research targets the dermal network and its physiological plasticity.

Gatuline® In-Tense, *spilanthes acmella* plant extract, offers key benefits for the next generation of anti-age applications. It exhibits powerful activity to stimulate, reorganize and strengthen the collagen network. Alkylamides have been identified as the active component of this extract and reveal a high ability to facilitate the interactions between collagen fibers and fibroblasts. These alkylamides reinforce the characteristics of the young dermis and improve its supporting capacity to protect against loss of firmness.

In vitro studies on three-dimensional collagen lattices demonstrate the obvious firming properties of alkylamides. Compared to TGF-beta, this new plant extract shows a clear action on strengthening of the dermis. In vivo substantiation on crow's feet confirms the powerful smoothing efficacy and its ultra rapid anti-ageing action. Tested versus a placebo for one month on two panels of 28 volunteers aged 45 to 65, Gatuline® In-Tense, formulated at 2%, exhibits a significant anti-wrinkle action the very next day following the first application.

Moreover, its preservative-free oily based nature and the high resistance of alkylamides to heat (tested at 80°C - 2 fold 8h) make this extract ideal for treatment make-up, re-plumping lipsticks and lifting foundations.

Gatuline® In-Tense, African flower extract, has been developed according to ethical and environmental criteria.



Variation % vs placebo at D1

\* Statistically significant/placebo (Student test) p<0.05

Visible results at D0 and D28



# agenda

- ▶ **24-26 September 2007**  
IFSCC 2007, Royal Tropic Institute,  
Amsterdam, Netherlands
- ▶ **25-26 October 2007**  
In-Cosmetics Eastern Europe 2007,  
Crocus 2, Moscow, Russia
- ▶ **20-21 November 2007**  
In-Cosmetics India 2007, Bandra  
Kurla Complex, Bombay, India
- ▶ **27-28 November 2007**  
SCS Formulate 2007, Telford  
International Centre, UK
- ▶ **6-7 December 2007**  
SCC New York  
The New York Hilton and Towers  
Hotel, New York City
- ▶ **17-19 March 2008**  
PCHI China 2008, Shanghai  
Everbright Convention & Exhibition  
Centre, China
- ▶ **15-17 April 2008**  
In-Cosmetics 2008, Amsterdam,  
Netherlands

**soon to come:**

*a specific website  
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rediscover all issues of  
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exciting and extensive range of active  
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# GATULINE® IN-TENSE



## INSTANT REMODELING

A new anti-aging solution from Gattefossé research, targets the dermal network and its physiological plasticity.

GATULINE® IN-TENSE presents an innovative mechanism of action. It reinforces the dermal architecture while placing the protein fibers network under tension for a fast and long lasting redensifying effect.

By stimulating the biomechanical functions of the fibroblasts, GATULINE® IN-TENSE will reorganize the architecture of the dermis. The density and firmness of the skin are then rapidly enhanced, leading to a reduction in skin roughness.

Visibly active, the action of GATULINE® IN-TENSE is measurable from the first application.