



# beautycare 2020

From trend to product: ideas & solutions!

Trend Topic  
**BEAUTY  
UNPLUGGED**

**MINERAL SUN LOTION:**

IMPAG formulation inside

**OLEAMULS® WO:** Emulsify with ease

**VAS - VEGETABLE ALTERNATIVE TO SILICONE**

**PHYTOVIE®DEFENSE:** The SPF booster

**SUNZNO-OLEO 200:** Innovative UV protection

**THE NEW LIPO SERIES**

**PHYTOFIRM® BIOTIC:** An anti-aging active probiotic

**SCALPOSINE™:** An active for restoring balance to the scalp microbiota

**CLEARTHIX S:** Versatile, transparent gelling agent

impag

# MINERAL SUN LOTION

Advanced technology for ideal skin care

It is well known that UV radiation damages the skin and causes it to age prematurely, with many consequences ranging from loss of elasticity to prominent wrinkles and hyperpigmentations. Accordingly, besides classical sun protection formulas, there is growing interest in face care products featuring UV filters as well as other new, innovative solutions.

In addition to the large selection of texture additives, our Partner SUNJIN offers effective COSMOS and NaTrue compliant mineral UV filters based on zinc oxide. With know-how in coating technology and various disper-

sion technologies, our partner has come up with solutions for developers who are looking for functional, easily processable and effective UV filters.

In our laboratory, we have developed a purely mineral-based sun lotion.

This light, low-viscosity and relatively transparent lotion (despite its high mineral UV filter content) is based on coated zinc oxide. Besides improved workability, the coating guarantees optimal results in terms of stability, transparency, and UV protection.



## DESCRIPTION

### Water-in-oil emulsion

- Slightly yellowish liquid
- Viscosity (day 1, sp. 4): 1,630 mPas
- Stable over 3 months at 6 °C, RT, 40 °C
- No MCT performed
- High natural origin content (according to ISO 16128)



## PROPERTIES

- Transparent on skin, low viscosity
- Natural, palm-free emulsifier
- Soft-skin feeling
- SPF 25–30 (expected)
- Potentially COSMOS compliant
- Cold producible

### IMPAG formulation: Mineral Sun Lotion potent. NaTrue & COSMOS SPF 30 (exp.)

SC08.06

Phase	Ingredient	INCI designation	manufacturer	% w/w	COSMOS
A	OLEAMULS WO	POLYGLYCERYL-6 PENTAOLEATE	SOCRI	6,30	
	VAS - VEGETABLE ALTERNATIVE TO SILICONE	HYDROGENATED ETHYLHEXYL OLIVATE, HYDROGENATED OLIVE OIL UNSAPONIFIABLES	EFP BIOTEK	7,00	
	NATURAL OIL INGREDIENT	Our recommendation: PHYTOVIE®DEFENSE	-	1,50	
	ZINC STEARATE	ZINC STEARATE	several	0,20	
	DERMOSOFT GMC	GLYCERYL CAPRATE	EVONIK	0,50	
B	COVI-OX T-90 EU C	TOCOPHEROL, HELIANTHUS ANNUUS SEED OIL	BASF	0,50	
	CETIOL LC	COCO-CAPRYLATE/CAPRATE	BASF	20,00	
	SUNZNO-OLE0200	ZINC OXIDE, CETYL ALCOHOL	SUNJIN BEAUTY SCIENCE	25,00	
C	DEIONIZED WATER	AQUA	-	35,00	
	GLYCERIN 99,8% PF MB	GLYCERIN	KLK Emmerich	3,00	
	SODIUM CHLORIDE	SODIUM CHLORIDE	several	1,00	



The information provided in this leaflet represents knowledge gained from laboratory and business operations. In light of ever changing conditions, however, this information can only serve as a guide and is accordingly non-binding. Please respect all property rights of third parties – IMPAG Import GmbH. [lab@impag.com](mailto:lab@impag.com)

## OLEAMULS® WO

Emulsify with ease

OLEAMULS® WO (INCI: Polyglyceryl-6 Pentaoleate) is a palm-free, cold-processable and highly effective non-ionic W/O emulsifier that is obtained by esterification of polyglycerol with olive oil. It is stabilized by the formation of liquid crystal structures that capture water in the formulation and only release it again in contact with skin. In this way, the emulsifier helps to increase skin moisture content and reduce TEWL. The PEG-free and 100% vegetable-based emulsifier allows easy dispersal of pigments and sun filters, and is extremely well tolerated by the skin.

### OLEAMULS® WO

**INCI:** Polyglyceryl-6 Pentaoleate

**Appearance:** Viscous, oily liquids

**HLB:** 6 (experimental)

**Recommended application concentration:** 3–8%

**Solubility:** Ethanol, mineral oils, natural oils, fatty acids, and fatty alcohols; water-insoluble

OLEAMULS® WO is a Socri S.p.A. product

## VAS - VEGETABLE ALTERNATIVE TO SILICONE

A natural alternative to silicones

VAS is a natural alternative to silicones (dimethicone, cyclopentasiloxane, cyclohexasiloxane) made from olive oil esters and olive oil unsaponifiables. The nourishing olive supports healthy skin. Colourless and odourless, it improves formulary aesthetics to reduce greasiness and tackiness. With a similar sensory profile to silicones, it leaves skin feeling equally smooth, soft and moisturized and creates an even protective film on the skin and hair.

### VAS - VEGETABLE ALTERNATIVE TO SILICONE

**INCI:** Hydrogenated Ethylhexyl Olivatate, Hydrogenated Olive Oil Unsaponifiables

**Appearance:** Colourless liquid

**Recommended application concentration:** 1–25%

VAS - VEGETABLE ALTERNATIVE TO SILICONE is EFP Biotek product.

## PHYTOVIE® DEFENSE

The SPF booster

Biodegradable natural polymer derived from tung oil and rapeseed oil. The product performs a moisturizing effect by reducing transepidermal water loss. Due to its film-forming properties it improves the water resistance and SPF value of the formulation. Prolongs the time of scent retention on the skin.

### PHYTOVIE® DEFENSE

**INCI:** Brassica Campestris/Aleurites Fordi Oil Copolymer, Tocopherol

**Appearance:** Yellow liquid

**Recommended application concentration:** 1–10%

PHYTOVIE® DEFENSE is a TRI-K Industries product.

## SUNZNO-OLEO 200

Innovative UV protection

SUNZNO-OLEO 200 is a COSMOS compliant broadband UVA/UVB filter based on zinc oxide. Thanks to the hydrophobic coating with cetyl alcohol, the product allows improved incorporation into oily phase and gives an extraordinary skin feel. Additionally, the rod-shaped zinc oxide provides good protection against UV radiation as well as greater transparency of the formulation. SUNZNO-OLEO 200 allows an SPF of approx. 1.2 units/g to be achieved in vivo.

For easy working into in W/O and O/W formulations there is OLEO-Z75 C5C, a dispersion based on SUNZNO-OLEO 200. It has a high zinc oxide content and is COSMOS and potentially NaTrue compliant. It guarantees both good stability and effective UV protection in formulations.

Ideal for skin care, sun protection and even baby care.

### SUNZNO-OLEO 200

**INCI:** Zinc Oxide, Cetyl Alcohol

**Appearance:** White powder

**Recommended application concentration:** 5–25%

### OLEO-Z75 C5C

**INCI:** Zinc Oxide, Cetyl Alcohol, Coco-Caprylate/Caprate, Polyglyceryl-6 Polyhydroxystearate, Polyglyceryl-6 Polyricinoleate

**Appearance:** White paste

**Recommended application concentration:** Max. ~35%

SUNZNO-OLEO 200 and OLEO-Z75 C5C are SUNJIN Beauty Science products.

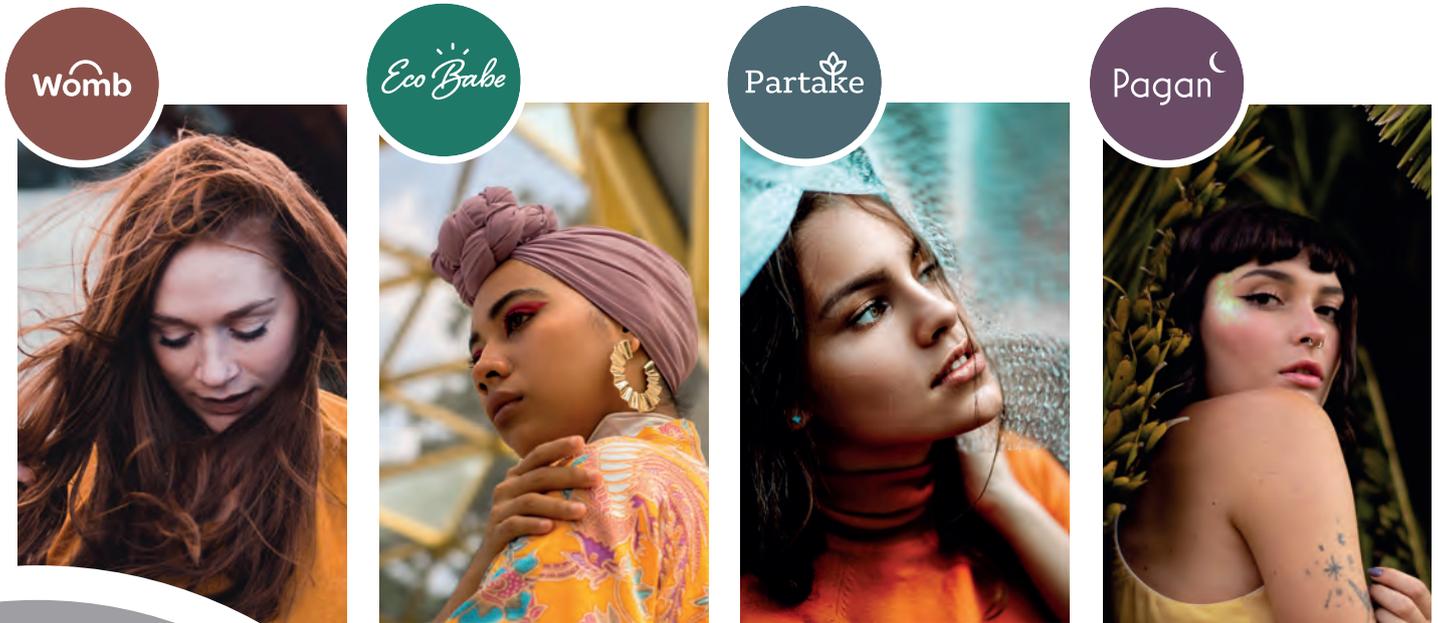
## BEAUTY UNPLUGGED

How to appeal to Clean Beauty consumers directly

Everyone is talking about clean beauty! For modern consumers, raw materials being of plant origin is no longer a compelling enough argument on its own, especially because even natural ingredients can have a toxicological profile. What consumers are looking for are “harmless” and “non-toxic” cosmetic products. This desire is being boosted by the media and by various brands with the buzzword **“Clean Beauty”**.

Consumers generally associate clean beauty products with health, wellbeing, and sustainability. Yet, not all clean beauty consumers are the same. Not all consumers who are surfing the wave of the clean beauty trend attach the same importance to all aspects of this trend. While some place primary importance on “naturalness” and “transparency”, others don’t want to compromise on “sustainability” and “safety”.

In our latest trend presentation **Beauty Unplugged**, we identify and analyse 4 types of future clean beauty consumers.



Below, we will focus on one of the four target groups: the **ECO BABE**.

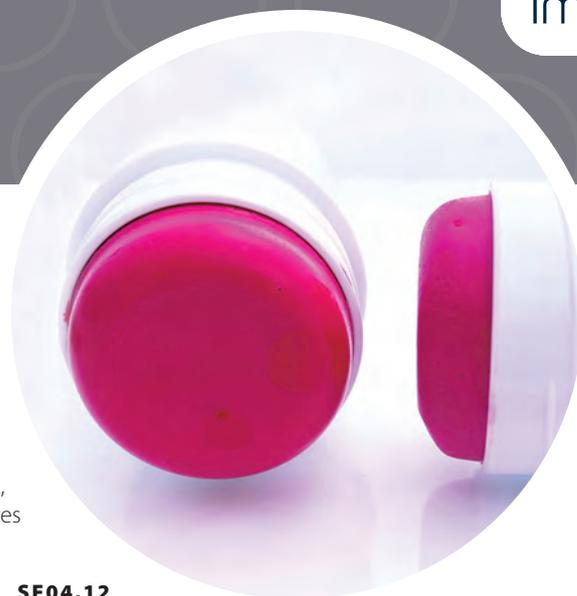
**ECO BABES** go clean because it is IN, but will not accept any drop in product performance. The products don’t have to look “green” or smell “natural”. Rather, these consumers are looking for loud, expressive colours and effect-loaded textures in the form of environmentally friendly formulations made from sustainable materials.

Below, we present a formulation for **ECO-BABE** consumers to give you a taste of what is possible.

ASK US ANY TIME  
FOR A DETAILED  
PRESENTATION  
OF ALL  
**4 TARGET GROUPS**  
WITH A TOTAL OF  
**8 READY**  
**FORMULATION**  
**CONCEPTS!**

**8 TREND**  
**PRODUCTS**





Blush stick was designed as a playful yet powerful line-up that dares. It is a fun, kitschy homage to the late 80's/early 90's, referencing pop culture. It was made from natural, biodegradable ingredients. Free from silicones, talc and PEGs; no mineral oil waxes, no beeswax inside. This unique emulsion, in the form of a stick, combines: high water content (35%) and pigment stability. The stick moisturizes and provides a cooling effect on the skin.

#### IMPAG formulation: Cool Breeze Blush Stick

SF04.12

Phase	Material Name	INCI	Manufacturer	%	COSMOS
A	CETIOL C5 C	COCO-CAPRYLATE/CAPRATE, TOCOPHEROL	BASF	18,85	🌿
	GOSULIN IL/MB	ISOAMYL LAURATE	GOBIOTICS	4,00	🌿
	BEURROLIVE	OLEA EUROPAEA FRUIT OIL, HYDROGENATED VEGETABLE OIL, GLYCERYL STEARATE	GIVAUDAN	2,00	🌿
	<b>HSFO - VEGETABLE ALTERNATIVE TO BEESWAX #2</b>	HYDROGENATED SUNFLOWER SEED OIL	EFP Biotek	9,00	🌿
	<b>OLEAMULS WO</b>	POLYGLYCERYL-6 PENTAOLEATE	SOCRI	3,00	🌿
	KAHLWAX 6607L	HELIANTHUS ANNUUS SEED CERA, ASCORBYL PALMITATE, TOCOPHEROL	KAHL GmbH	11,50	🌿
A1	<b>MLB</b>	POLYGLYCERYL-4 ISOSTEARATE, COCO-CAPRYLATE/CAPRATE, POLYGLYCERYL-3 POLYRICINOLEATE, DISTEARDIMONIUM HECTORITE, SORBITAN ISOSTEARATE	SUNJIN BEAUTY SCIENCE	6,50	
A2	LIPSI RED 30R7C	DIISOSTEARYL MALATE, CI 15850, ISOPROPYL TITANIUM TRIISOSTEARATE	PRODOTTI GIANNI	1,25	
	LIPSI WHITE 60U	CI 77891, DIISOSTEARYL MALATE, ISOPROPYL TITANIUM TRIISOSTEARATE		0,50	
B	DEIONIZED WATER	AQUA	-	35,00	
	ISOPENTYLDIOL	ISOPENTYLDIOL	KURARAY	5,00	
	<b>AQUAJUVE CC</b>	SODIUM HYALURONATE	JOYVO	0,10	🌿
B1	DERMOSOFT GMC	GLYCERYL CAPRATE	EVONIK	0,80	🌿
	<b>SUNSIL-20</b>	SILICA	SUNJIN BEAUTY SCIENCE	2,00	🌿
C	FRAGRANCE	PARFUM	-	0,50	

**Appearance:** pink blush stick

**Stability test completed:** Stable over 3 months at 6 °C, RT and 40 °C | Challenge test of comparable formulation passed well (A-criterion) | **ISO 16128:** Natural origin content ~93,5%

#### Manufacturing instructions for Cool Breeze Blush Stick SF04.12:

1. Phase A: mix all ingredients while stirring and heat up to 80–85 °C.
2. Add phase A1 to phase A while stirring. Keep temperature at 80–85 °C.
3. Add phase A2. Keep temperature at 80–85 °C
4. Phase B: mix all ingredients while stirring. Heat up to 80–85 °C.
5. Add phase B1 to phase B while stirring. Keep temperature at 80–85 °C.
6. Add phase B/B1 to the bulk while stirring (up to 1000 rpm) for 5 minutes.
7. Add phase C to the bulk while stirring.
8. Pour the bulk into the packaging and put into freezer for 30 min.

**i** The information provided in this leaflet represents knowledge gained from laboratory and business operations. In light of ever changing conditions, however, this information can only serve as a guide and is accordingly non-binding. Please respect all property rights of third parties – IMPAG Import GmbH. [lab@impag.com](mailto:lab@impag.com)

## THE NEW LIPO SERIES

Advanced encapsulation technology for skin care

These high-tech liposomes are based on certain biomimetic phospholipid composition such as phosphatidylcholine and cholesterol. The multi-lamellar structure protects the encapsulated active ingredients against oxidation, degradation, and interaction with other components of the formulation. The liposomes can be used over a broad temperature and pH range. A smart release system ensures the active ingredients are released exactly where they are needed.



### LIPOCLARE

Kojic acid is a natural active ingredient that inhibits melanin production and is therefore used for skin lightening. However, because it is light-sensitive, kojic acid added directly to a formulation can be quickly photodegraded and thus lose its effect.

In ex-vivo studies, it has been shown that the application of a cream containing 2.2% LIPOCLARE increases the amount of kojic acid in the basal layer by more than eight times: from 1.2  $\mu\text{g}/\text{cm}^2$  to 9.8  $\mu\text{g}/\text{cm}^2$  of free kojic acid. An ex-vivo test showed that 2.22% LIPOCLARE is able to reduce UV-induced melanin formation, while the equivalent amount of free kojic acid (0.066%) cannot.

**INCI:** Aqua, Mannitol, Phosphatidylcholine, Glycerin, Kojic Acid, Cholesterol, Polysorbate-80, Tocopheryl Acetate, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

### LIPOVIT

LIPOVIT contains 3% vitamin C and 0.5% each of vitamin A and vitamin E, whose well-known anti-aging mechanisms are further boosted by liposomal encapsulation.

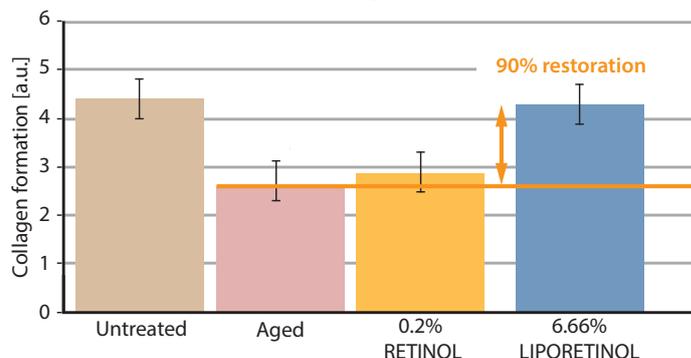
In an ex-vivo study, premature skin aging was triggered on skin explants by stimulation with corticosteroids. Unlike the equivalent amount of free vitamins ACE, 2.5% LIPOVIT was able to reduce corticosteroid-induced collagen loss significantly. In another study, skin explants were damaged using UV light, which led to an increased amount of reactive oxygen species (ROS). Application of a preparation containing 1% free vitamins ACE reduced ROS formation, while 2.5% LIPOVIT (which equates to an amount of 0.1% free vitamins ACE) reduced the release of ROS even further.

**INCI:** Aqua, Mannitol, Phosphatidylcholine, Glycerin, Sodium Ascorbyl Phosphate, Cholesterol, Retinyl Palmitate, Tocopheryl Acetate, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

### LIPORETINOL

Retinol, also known as vitamin A, is an established anti-aging active ingredient. Unfortunately, retinol and its derivatives are highly sensitive to sunlight and heat, and must be protected as well as possible against these influences.

In an ex-vivo study, it was shown that LIPORETINOL increases the amount of retinol in the basal layer 12 times higher than applying the identical amount of free retinol, from 0.4  $\mu\text{g}/\text{cm}^2$  to 5  $\mu\text{g}/\text{cm}^2$ . In skin explants destined for premature aging by stimulation with corticosteroids, the application of 0.2% free retinol only managed to weakly increase collagen formation. By contrast, the equivalent amount of LIPORETINOL (6.66%) compensated for almost all collagen degradation induced by the corticosteroids (see Fig. 1).



**Fig. 1:** While free retinol is unable to stimulate the production of collagen, an equivalent amount of LIPORETINOL promotes greatly increased collagen formation.

**INCI:** Aqua, Mannitol, Phosphatidylcholine, Glycerin, Retinyl Palmitate, Cholesterol, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

### LIPOADVANCE

Proteoglycans are components of the extracellular matrix. There, they form large complexes with other proteoglycans, glycosaminoglycans (GAGs, e.g. hyaluronic acid) and matrix proteins (e.g. collagen). Furthermore, it is known that proteoglycans are capable of stimulating the formation of collagen.

In skin explants treated with corticosteroids to induce premature skin aging, a preparation containing 0.016% free proteoglycans was not capable of increasing collagen formation, while the equivalent amount of LIPOADVANCE (6.4%) was able to counteract the induced collagen reduction significantly.

**INCI:** Aqua, Mannitol, Phosphatidylcholine, Glycerin, Cholesterol, Soluble Proteoglycan, Xanthan Gum, Sodium Chloride, Potassium Sorbate, Sodium Benzoate.

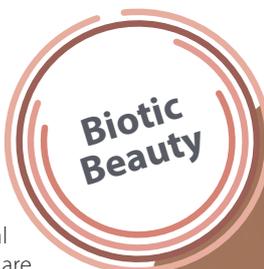
**LIPOCLARE, LIPOVIT, LIPORETINOL, LIPOADVANCE** are Cobiosa products

## BIOTIC BEAUTY

Biotic products are understood to be beneficial to health not only in the context of food but also in skin care. The terms prebiotic, probiotic, and postbiotic have all become established in the cosmetics industry.

According to the official definition of ISAPP (International Scientific Association for Probiotics and Prebiotics), probiotics are live microorganisms that, when administered in adequate amounts, confer a health benefit on the host. Prebiotics are substrates that are selectively utilized by host microorganisms conferring a health benefit. Because the use of live microorganisms is difficult in cosmetics, the term probiotic has since been expanded to include fermented products, or in other words “products produced by microorganisms”.

With its unique microbiota platform, BASF has amassed great expertise in the research of the skin microbiome and in the scientific development of biotic active ingredients. Two of the latest innovative active ingredients are PHYTOFIRM® BIOTIC, a collagen booster for anti-aging care, and SCALPOSINE™, which re-optimizes the microbiota of a problematic scalp.



## PHYTOFIRM® BIOTIC

An anti-aging active probiotic

PHYTOFIRM® BIOTIC is obtained by fermentation of EU soy (non GMO) by *Lactobacillus plantarum*, and is thus a probiotic according to the expanded definition. The extract contains above all peptides and lactic acid, and is an alternative to conventional soy preparations.

It was shown in fibroblast cultures that PHYTOFIRM® BIOTIC increased the synthesis of collagen I, collagen V, and elastin. Additionally, it was observed that collagen I and V were better crosslinked than in the control culture. These properties are important for elastic and well-structured skin that does not look aged.

In an efficacy trial with 42 volunteers (55–63), the action of PHYTOFIRM® BIOTIC on skin elasticity and thickness was studied. One half of the group applied a 2% active preparation in a cream twice daily over 112 days, while the other half applied a placebo cream.

After 56, 64, and 112 days, the skin elasticity was measured by Cutometer and skin thickness by ultrasound and the measurements compared to Day 0. The values increased successively until, after 112 days, a significant increase in elasticity and thickness was achieved compared to Day 0 and the placebo (see Fig. 2).

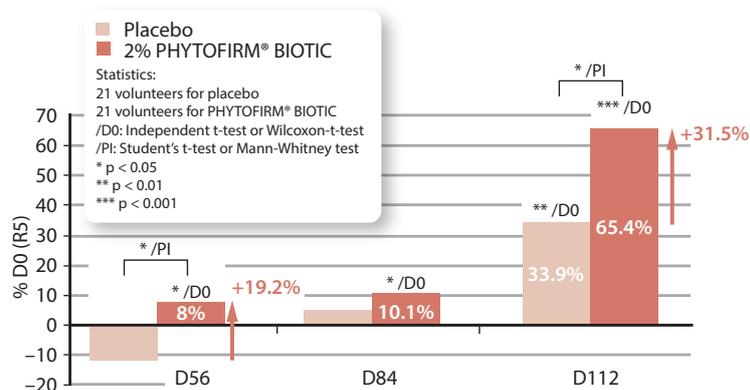


Fig. 2: Cutometer values measured to determine net elasticity in the jaw region. After application of 2% PHYTOFIRM® BIOTIC, a significant improvement was detected compared to Day 0 and the placebo.

### PHYTOFIRM® BIOTIC

**INCI:** Lactobacillus/Soybean Ferment Extract (and) Pentylene Glycol (and) Caprylyl Glycol

**Appearance:** Yellow to amber liquid

**Preservatives:** None

**Recommended application concentration:** 1–2%

**Solubility:** Water-soluble

**ISO 16128:** NOC = 99.5%

PHYTOFIRM® is a trademark of BASF.

## SCALPOSINE™

For restoring balance to the scalp microbiota

SCALPOSINE™ contains sarcosine and belongs to the prebiotics. By promoting a beneficial microbiota, SCALPOSINE™ actively soothes the scalp. A cleansing action has also been observed along with an inhibition of excessive sebum production.

A metagenomic pre-trial was also conducted to make a comparison between the microbiota of a normal scalp (28 volunteers) and an oily scalp (40 volunteers). It was confirmed that an oily scalp had lower microbiota diversity than a normal scalp. Furthermore, it was established that, above all, six bacterial strains that exist as a significant population on a normal scalp do not exist on an oily scalp.

### SCALPOSINE™

**INCI:** Glycerin (and) Water (and) Sarcosine

**Appearance:** Colourless to yellow liquid with a faint odour

**Preservatives:** None

**Recommended application concentration:** 1%

**Solubility:** Water-soluble

**ISO 16128:** NOC = 93% (incl. water)

SCALPOSINE™ is a trademark of BASF.

In the SCALPOSINE™ study, it was investigated to what extent the active ingredient (1% mask formulation) restored this balance. After one month of application, diversity was greater and colonization with the six microorganisms characteristic of a normal scalp had also significantly increased.

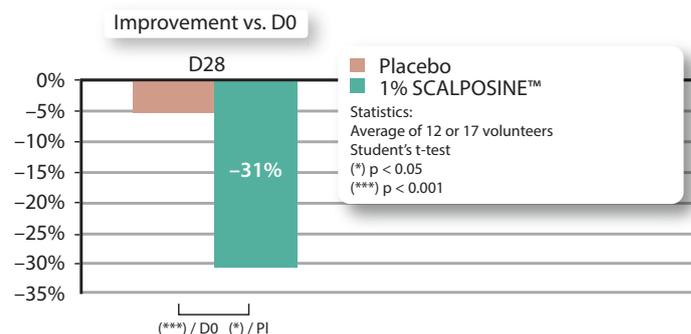


Fig. 3: Application of 1% SCALPOSINE™ caused a significant reduction of excessive sebum production on the scalp.

## CLEARTHIX S

Versatile, transparent gelling agent

CLEARTHIX S is a purely vegetable based thickening agent that is versatile in application. It produces transparent formulations and soft textures without being sticky. CLEARTHIX S is used in low concentrations, can be cold worked, and can be used as a substitute for synthetic polymer thickeners. It can be used within a pH range from 4 to 8, and its alcohol compatibility is approx. 30%.

### CLEARTHIX S

**INCI:** Cellulose Gum, Algin

**Appearance:** White powder

**Recommended application concentration:** 0.5–2%

**Processing temperature:** RT–75 °C

**Electrolyte compatibility:** max. 3%

**Origin:** 100% vegetable

**Certification:** COSMOS natural, ISO 16128: NOC = 100%

CLEARTHIX S is an Alchemy product.

To achieve clear, watery gels, CLEARTHIX S is homogenised in cold water under high shear forces or alternatively predissolved in glycerin. For use in emulsions, the predissolved product can be added to the oil phase at any stage. The final viscosity is independent of the processing temperature, and adding ethanol slightly reduces the viscosity.

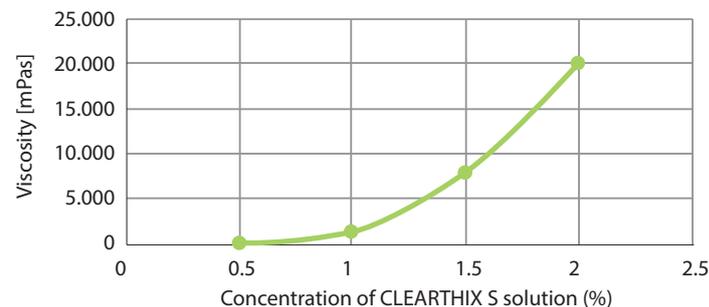


Fig. 4: Viscosity gradually increases with increasing concentration of CLEARTHIX S in water. (However, adding more than 2% makes gels highly viscous and difficult to stir.)

### Distributed by

**IMPAG CHEMICALS POLAND SP. Z O.O.**

ul. Powązkowska 44c

01-797 Warszawa

Phone: +48 22 418 40 00

Fax: +48 22 418 40 90

E-Mail: info@impag.pl

Web: www.impag.pl

### IMPAG Group Country Offices

Switzerland/Zurich – www.impag.ch

Germany/Offenbach – www.impag.de

France/Nancy + Paris – www.impag.fr

Poland/Warsaw – www.impag.pl

Austria/Vienna – www.impag.at