SCH Blend® Hydrant

Actives for the skin

Content

01
Introduction

01
Introduction

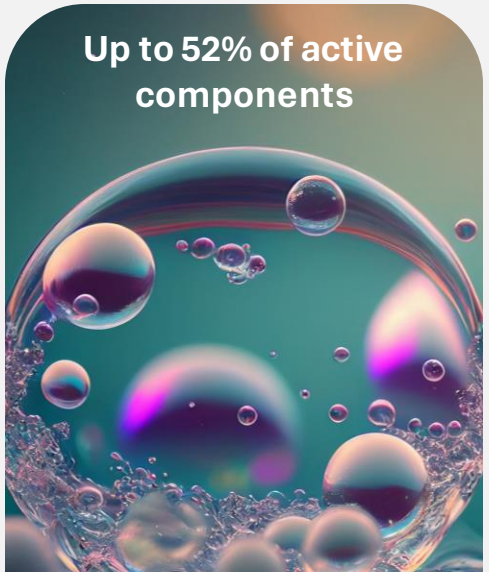
SCH Blend® Hydrant is the most advanced combination of multifunctional ingredients with important benefits to guarantee an extreme level of hydration to the skin and/or hair.

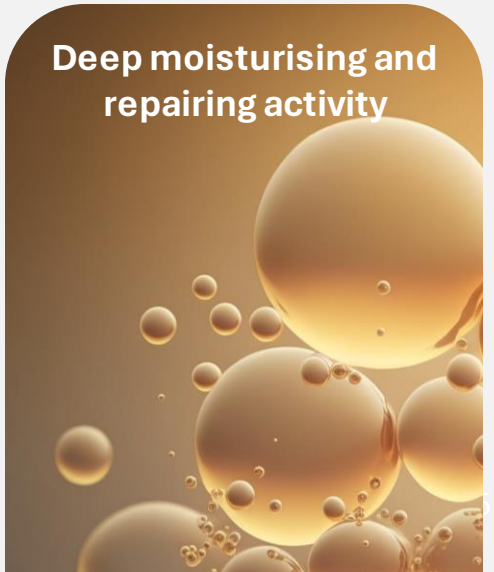
Main activities

- Filmogen - PH regulating
- Moisturising - filmogenic
- Deep moisturising and repairing
- Skin and hair conditioner
- Anti-pollution - environmental stress - procollagen

01
Composition

INGREDIENT	%	FUNCTION
Aqua	Up to100	Solvent
Threalose	20 – 25	Active
Sodium PCA	10 – 15	Active
Sodium hyaluronate	7 – 10	Active
Sodium polyglutamate	1 – 2	Active
Methylpropanediol	1,5 – 2	Preservative
Caprylyl glycol	0,2 – 0,4	Preservative





02
Ingredients

02 Ingredients

1. Threalose

Hydro regulator / Environmental stress / Procollagen

Trehalose is a **natural disaccharide made up of two D-glucose units**. In aqueous media, it is considered a "kosmotrope" as it increases the cohesion and structural symmetry of the crystalline network of water molecules by osmosis. As an active moisturiser, **trehalose helps to preserve the hydrolipidic film and permeation channels** in situations of heat stress, dehydration and sun exposure, preventing the degradation of cementitious lipids and amino acids of the skin's natural moisturising factor (MNF). It also **reduces inflammatory processes mediated by environmental stress** by inhibiting NF-kB.

In combination with polyglutamic acid and hyaluronic acid, **trehalose synergistically increases the barrier function of the stratum corneum by electrostatic interactions** with its various constituents. Trehalose prevents **oxidative stress** and skin photoaging by inhibiting UVB-induced expression of proteases (MMP-1, -3 and -9). It also promotes **keratinocyte autophagy** and **procollagen I production** through the activation of the growth factor FTG-β/Smad pathway.

02 Ingredients

2. Sodium PCA

Filmogen / pH regulator / Repairer

Sodium PCA is the **sodium salt of pyrrolidone carboxylic acid**, a key peptide constituent of the natural moisturising factor (12%) and thus of the stratum corneum (2%). With a marked hygroscopic character (x 250) and in combination with the electrolyte sodium, **PCA increases the surface hydration or "sealing effect"** of the skin mediated by aquaporins (AQPs).

Its PH regulating and compensatory nature of the aggressions caused by daily hygiene and cleansing surfactants makes it a first class **eubiotic and eudermic agent.** It also has sebum-regulating and anti-inflammatory properties.

02 Ingredients

3. Sodium hyaluronate

Moisturizer / Barrier enhancement / Tissue repair

Sodium hyaluronate, a derivative of hyaluronic acid, typically sourced from natural substrates or synthesized through biotechnological processes, serves as a **potent moisturizing agent**.

This compound, with a molecular weight ranging from 5,000 to 10,000 KD, exhibits **remarkable transcutaneous penetration**, deeply hydrating the skin layers and reinforcing the epidermal barrier. By **attracting and retaining moisture** within the stratum corneum, it effecti**vely combats transepidermal water loss (TEWL)**, fostering an environment conducive to optimal skin health.

Moreover, sodium hyaluronate's reparative properties are instrumental in tissue regeneration processes. It **accelerates wound healing by facilitating cell migration, proliferation, and differentiation**. Additionally, it fortifies intercellular connections by **enhancing the expression of essential proteins like ZO1 and occludin**, fortifying the integrity of the skin barrier.

Beyond its moisturizing and reparative capabilities, sodium hyaluronate exhibits anti-inflammatory properties, soothing irritated skin and promoting a calmer complexion.

02 Ingredients

4. Sodium polyglutamate

Moisturising / Barrier effect / Cellular homeostasis

Derived through biotechnological processes, sodium polyglutamate forms a **moisture-attracting 3D cross-linked layer on the skin**, capable of retaining water up to 10,000 times its weight.

It significantly **diminishes transepidermal water loss (TEWL)** while augmenting the generation of crucial natural moisturizing factors (NMF), including Pyrrolidone Carboxylic Acid (PCA), lactic acid, and urocanic acid.

When combined with hyaluronic acid, it **synergizes to fortify the skin's barrier, exhibiting anti-hyaluronidase activity**, thereby impeding its degradation within the stratum corneum.

Demonstrating cytoprotective effects, it stimulates the production of TGF-β growth factors and **neutralizes environmental toxins** (such as heavy metals) through chelation. Its documented bacteriostatic properties further aid in maintaining the **healthy equilibrium of the skin's microbiota** by inhibiting the proliferation of bacteria like P. acnes and S. aureus.

03
Hydration Kinetics Test

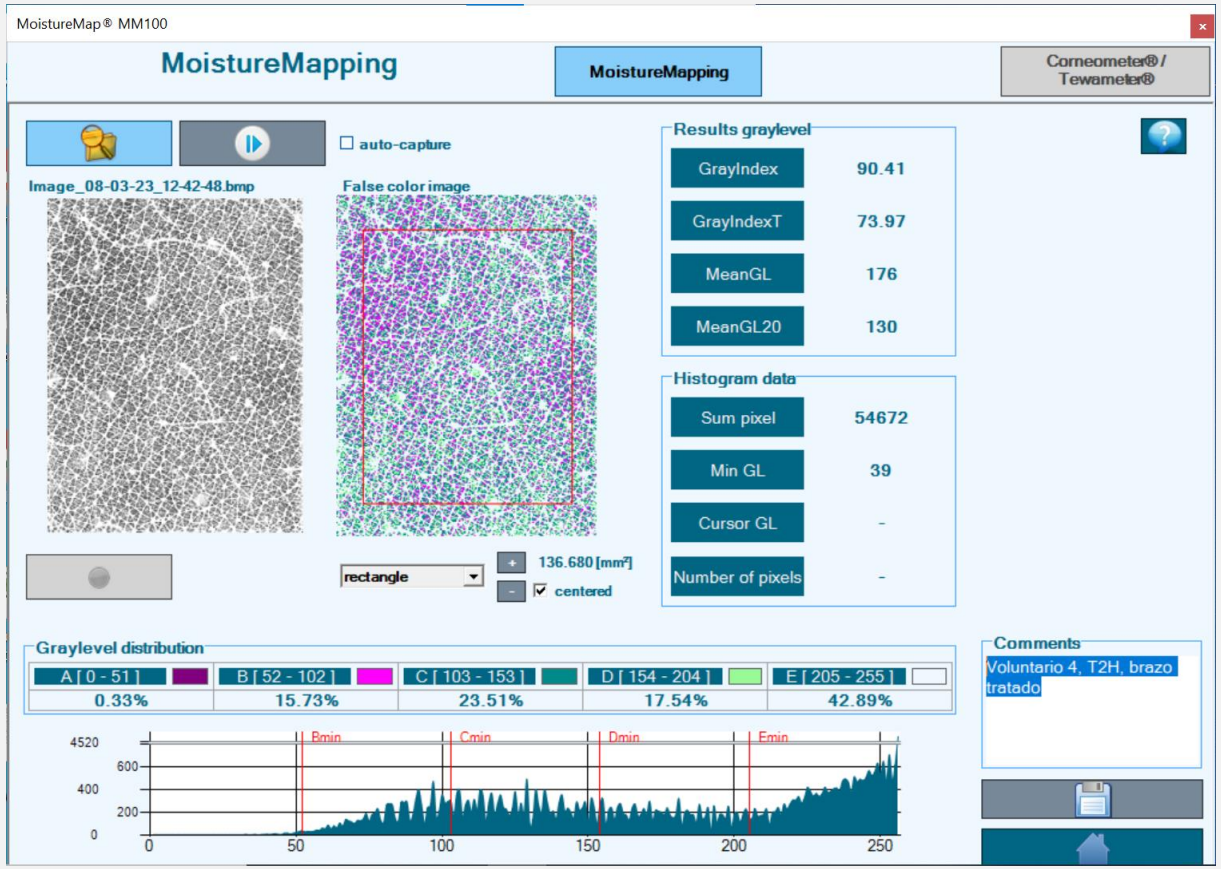
03 Hydration Kinetics Test

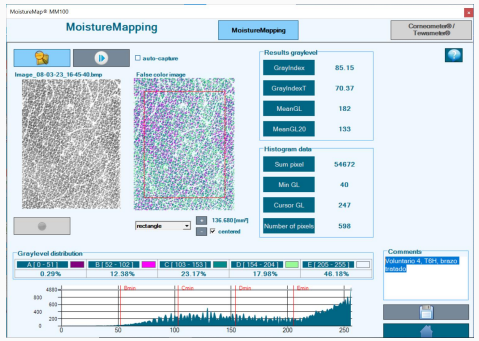
Objective & principle of the study

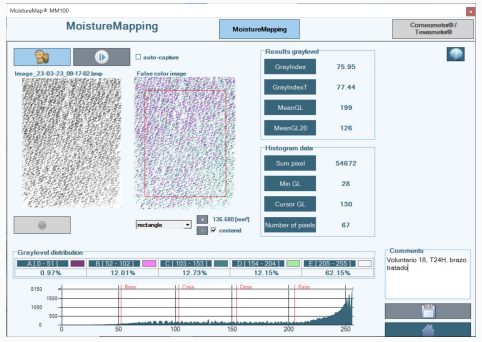
This study is aimed to determine the moisturizing efficacy of **SCH Blend® Hydrant**, after a single application, at different measurement times, contained in a moisturizing cream.

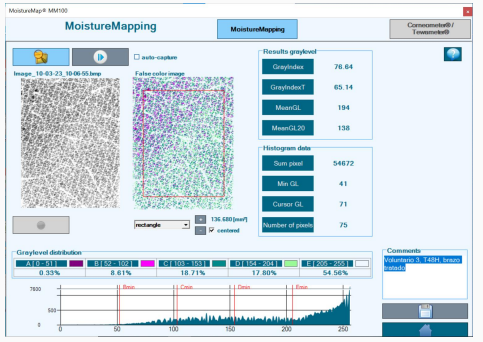
To measure the moisturizing efficacy of the product, the following **skin biometric measurements** were carried out:

→ **Moisturizing efficacy**: Moisture Map MM 100 device with measurement at initial time, at **2 hours**, at 6 hours, at 24 hours and at 48 hours after application.









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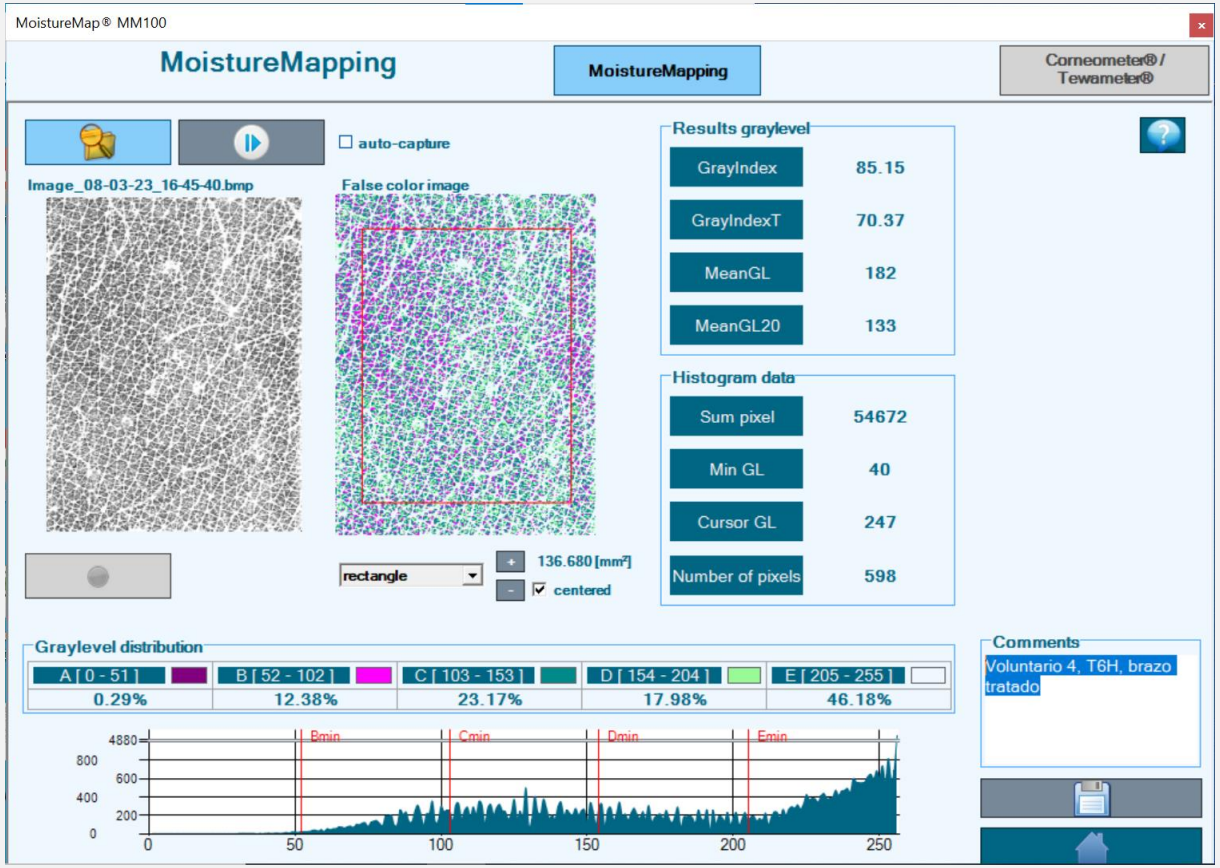

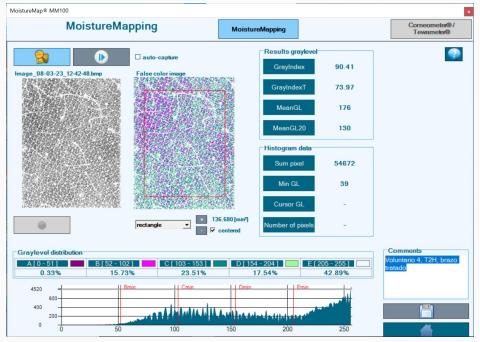

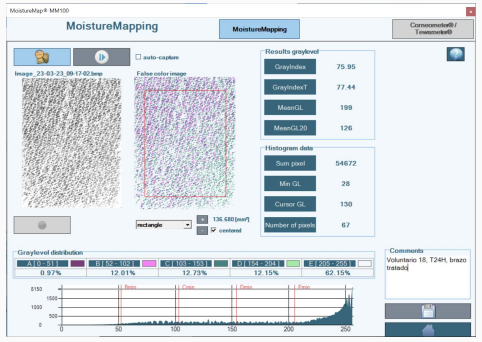

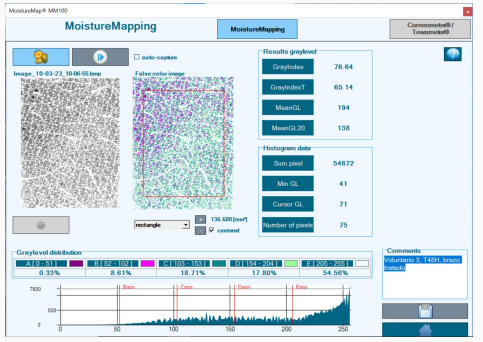

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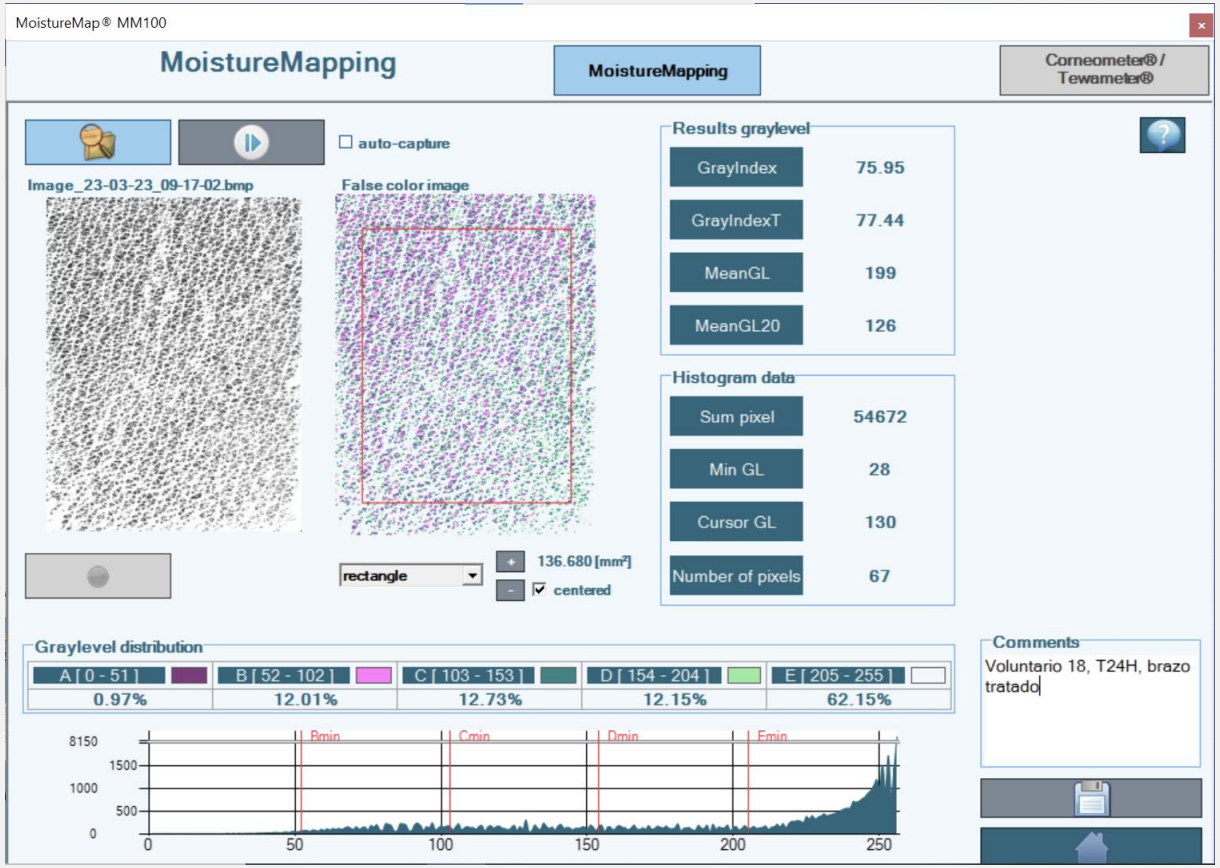

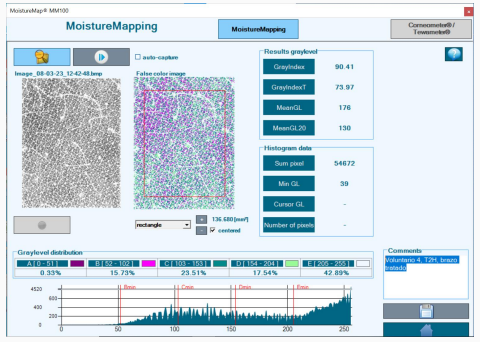

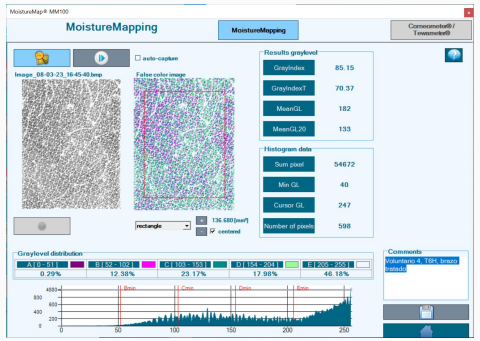

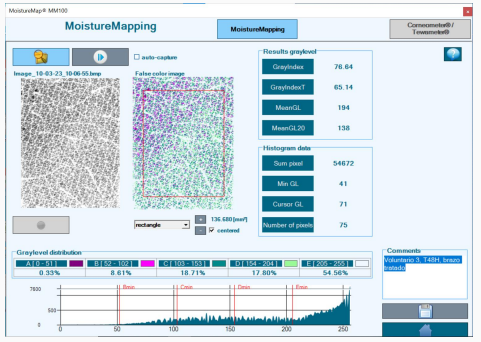

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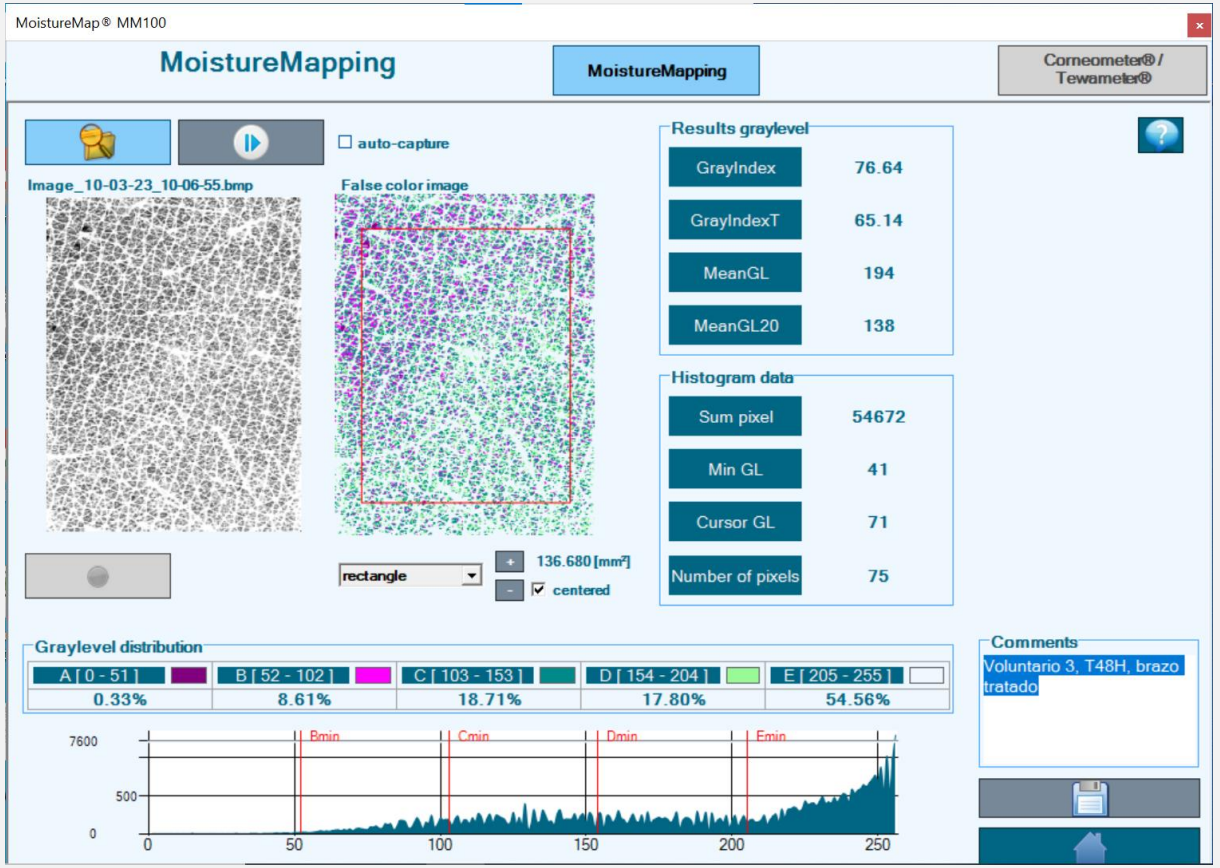

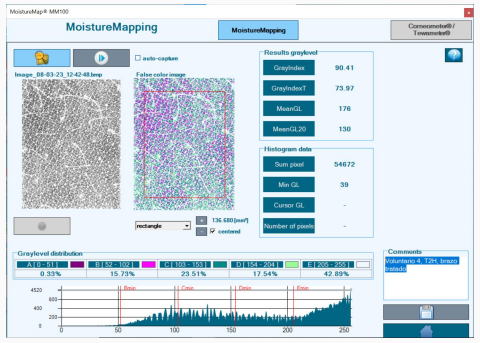

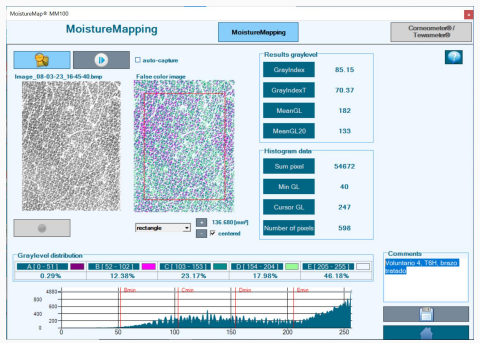

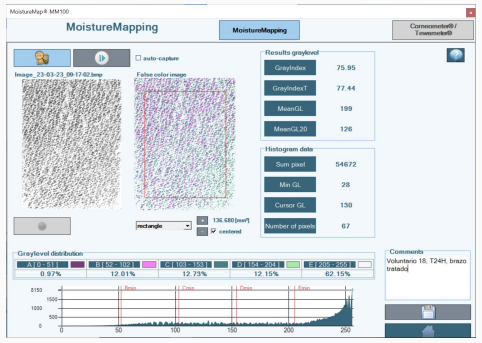

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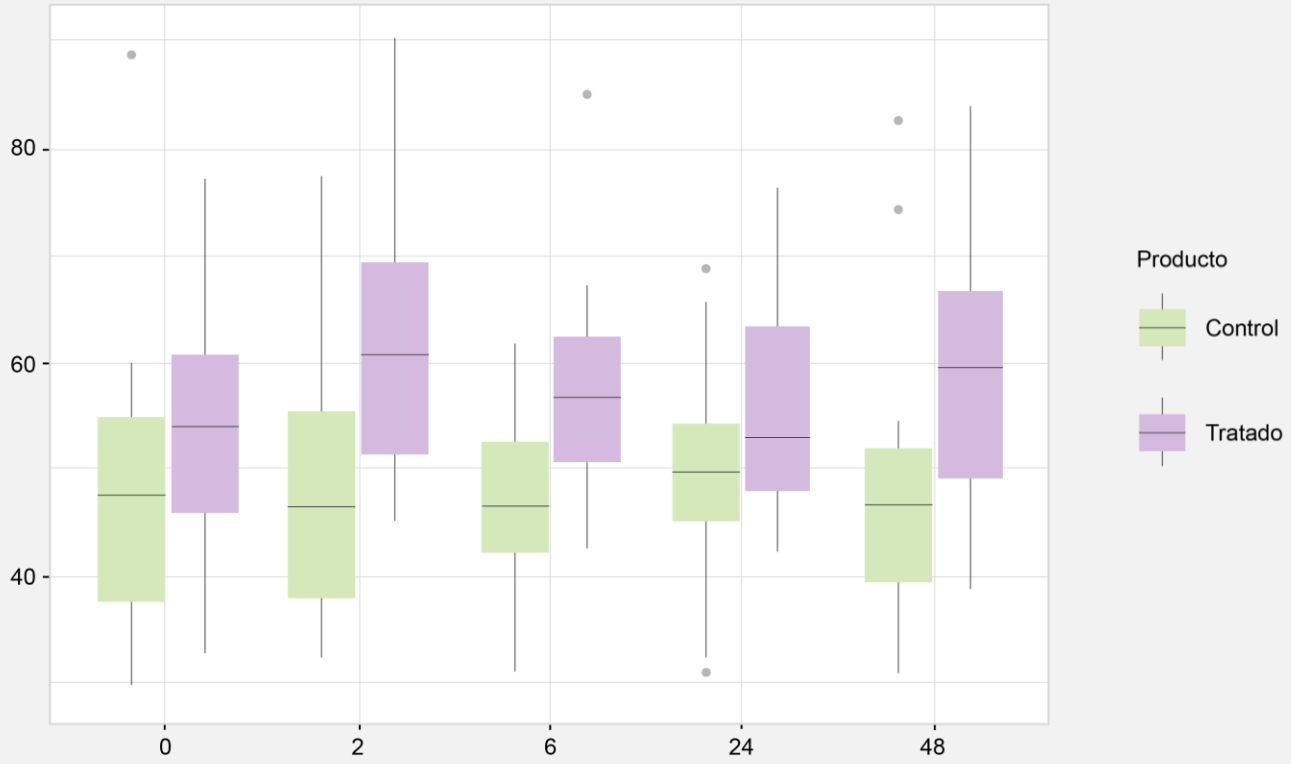


Mean parameter results ± standard error measuring the GrayIndex or the hydration level (*y* axis) at different experimental times (*x* axis)

03 Hydration Kinetics Test

Conclusion

The objective of the study was to determine **the efficacy in hydration of the product SCH Blend® Hydrant** by means of biometric measurements in 22 volunteers 2, 6, 12 and 48 hours after the use of the product.

Under the experimental conditions adopted and considering the defined experimental parameters, we can conclude:

2h after product application	Hydration in the treated area is increased by **29%**
6h after product application	Hydration in the treated area is increased by **21%**
24h after product application	Hydration in the treated area is increased by **14%**
48h after product application	Hydration in the treated area is increased by **23%**

04
Formulation guides

04 Moisturizing Cream Formulation

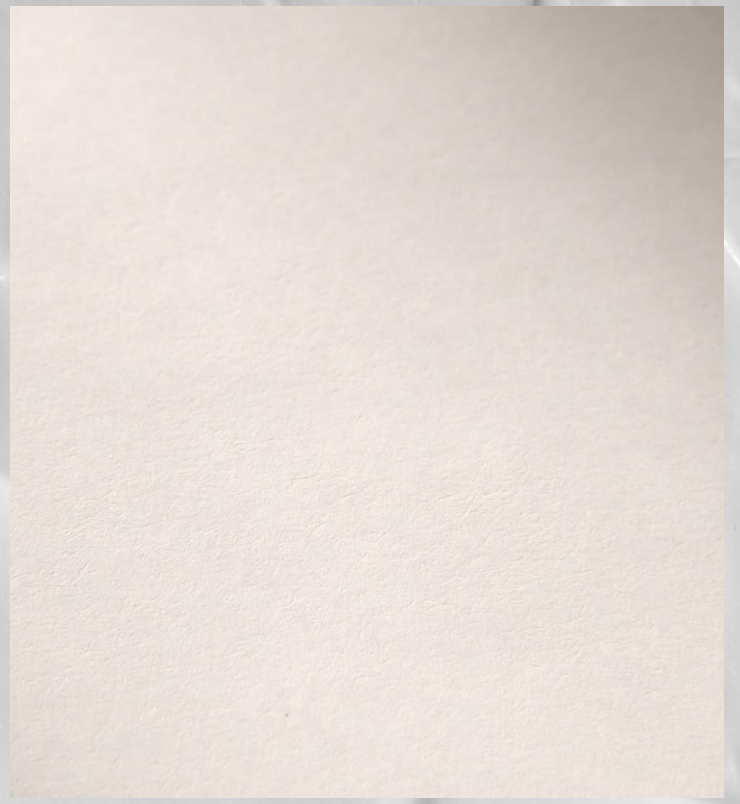
INGREDIENT	INCI	%	PHASE
Water	Aqua	66,8	A
Zemea	Propanediol	3	
Lecigel	Sodium polyacrylate, Lecithin	0,5	B
Neossance	Squalane	5	
Myritol 318	Caprylic/capric triglyceride	5	
Cupuacu Butter	Theobroma grandiflorum seed butter	2	
Phytocream 2000	Potassium palmitoyl hydrolyzed wheat protein, Cetearyl alcohol, Glyceryl Stearate	5	
Vitamin E	Tocopheryl acetate	0,5	
Dermosoft OM	Methylpropanediol, Caprylyl glycol	2	C
SCH Blend® Hydrant	Water, Trehalose, Sodium PCA, Sodium hyaluronate, Sodium polyglutamate, Methylpropanediol, Caprylyl glycol	10	
Parfum	Parfum	0,2	

Manufacturing method

1. **Mix** the ingredients of **phase A** and heat to between 60-65ºC.
2. **Mix** the ingredients of **phase B** and heat to 60-65ºC.
3. **Add phase B on top of phase A and homogenise** vigorously until an emulsion is formed.
4. **Cool and below 40ºC** add phase C with stirring.

04 Moisturizing Serum Formulation

INGREDIENT	INCI	%	PHASE
Water	Aqua	71,6	A
Glycerin	Glycerin	5	
Siligel	Xanthan gum, Lecithin, Sclerotium gum, Pullulan, Silica	1	
Dermosoft OM	Methylpropanediol, Caprylyl glycol	2	
SCH Blend® Hydrant	Water, Trehalose, Sodium PCA, Sodium hyaluronate, Sodium polyglutamate, Methylpropanediol, Caprylyl glycol	20	
Parfum	Parfum	0,4	



Manufacturing method

1. **Mix all the ingredients and homogenise** vigorously until the serum is formed.

05
Specifications

05 Technical specifications

CHARACTERISTIC	SPECIFICATION
Aspect	Viscous translucid solution
Color	Colorless
Odor	Characteristic
Density (g/mL)	1,1 – 1,2
Viscosity (sp: 6; 20 rpm)	35000 – 50000 cP
Dry weight (%)	30 – 35
pH	5 - 7
Heavy metals content Lead (Pb) Arsenic (As) Mercury (Hg) Cadmium (Cd)	 < 10 ppm < 2 ppm < 1 ppm < 1 ppm
Dosage (%)	5 - 20
Expiration	24 months
Solubility	Water soluble

Special chemicals

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