

HydroSal® Youth

Comprehensive anti aging treatment with benefits that consumers can see and feel.

HydroSal® Youth is a technology that supports fast and lasting youthful-looking skin.

The technology is addressing the following needs:

- Maintain a youthful appearance by boosting the synthesis of cellular HMW HA, Collagen and Elastin
- Continuous time-release is required because HA turnover is high and is replaced every 12 hr to 3 days.
- Topical application as an alternative to injection

Functional ingredients:

- Hyaluronic Acid, a powerful hydrating
- Copper peptides stimulate collagen synthesis, promote healing, are anti-inflammatory, and improve skin texture.
- Ceramides maintain the skin's barrier function and prevent moisture loss
- Resveratrol, an antioxidant, preserves the Hyaluronic Acid content in the skin and prolongs its hydrating effects.

Major Features

HydroSal® Youth can offer several benefits in skincare formulations:

- Enhanced stability
- Controlled release
- Enhanced efficacy
- Proprietary and easy to use in various finished products

Major Claims: Induce hydration(deep), moisturizing, plumping to smooth out sine lines and youthful appearance, improving skin texture, repairing uneven skin, enhancing elasticity and firming.

The microspheres encapsulate hyaluronic acid (HA), ceramides, copper peptides, and Resveratrol in its core. (Figure 1)

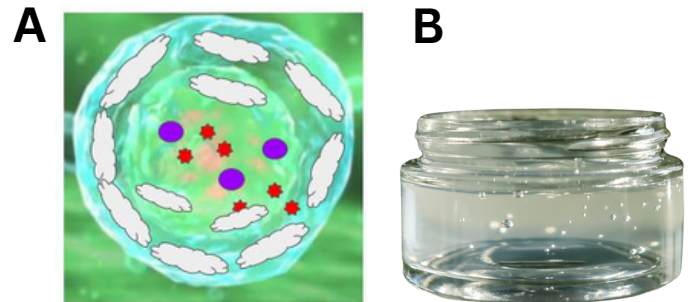


Figure 1: A, Diagram of HydroSal® Youth. The core contains middle and low molecular weights of HA, copper peptides, resveratrol, and ceramides. The polymeric shell contains HMW HA and other polymers. B The raw material is clear and liquid

Release:

The HMW enables the keeping of functional ingredients encapsulated in the spheres. Upon application, the spheres form a hydrating barrier, or shield, on top of the skin. The core components enhance deeper hydration and conditions for collagen and elastin synthesis (Fig 2).

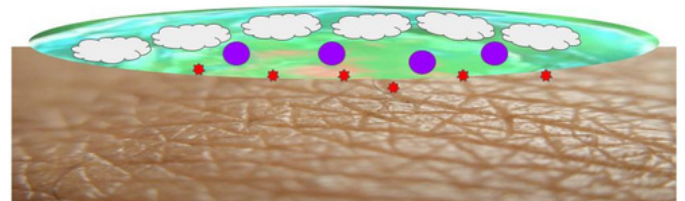
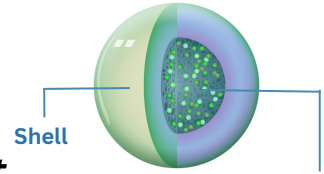


Figure 2: Illustrates of the in-situ encapsulation of HydroSal® Youth. The HMW forms a hydrating barrier. The M/L MW HA hydrates the deeper layers of the skin, while Copper peptides stimulate collagen production.





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HydroSal® Youth, fast response



Figure 3: A lotion containing 2% HydroSal Youth was applied around the eyes. A, before application, and B, after 15 min. Significant improvement in the appearance of fine lines and wrinkles.

Long lasting moisturization

A single application significantly enhances the moisture level.

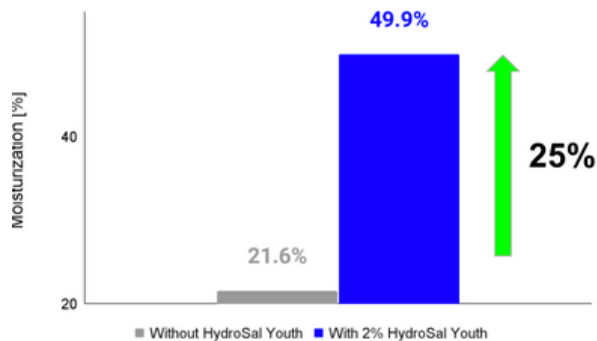


Figure 4: Skin moisturization measured 8 hours after application with Corneometer™ CM 825. The technology increase the moisture level by 25% compared to the control, no technology.

Skin barrier repair

The skin barrier is determined by reducing the trans-epidermal transport (TEWL).

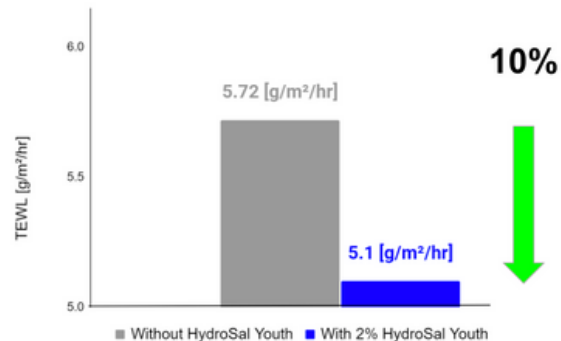
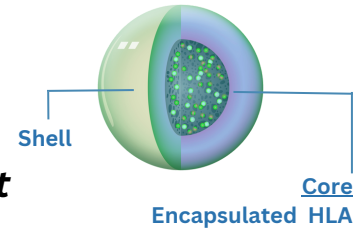


Figure 5: TEWL measured 8 hours after application with TEWL meter probe™ CM 825. The technology decreased the water transport by 10% after 8 hours compared to the control, no technology.



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Technical Data

Table 1: Composition of HydroSal® Youth, PID: #8837-09

INCI of HydroSal® Youth
Hydroxypropyl Cellulose
Ceramides AP, Resveratrol, Copper tri peptide-1
Astragalus Gummifer Gum
Sodium Hyaluronate
Aqua
Pentylene Glycol, Caprylyl Glycol, Propanediol, Ethylhexylglycerin

Table 2: Specification of HydroSal® Youth, PID: #8837-09

Property	Characteristic
Appearance at 20C	Viscous Clear Fluid
Color	Clear to Slightly Yellow
Odor	Characteristic
pH (neat)	6.0-8.0

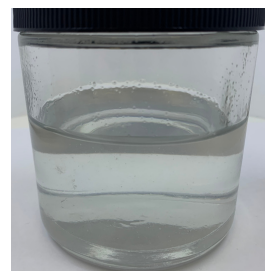


Figure 6: Raw HydroSal® Youth PID: 8837-09

Composition of the microspheres

	Raw Material	Function
1	Astragalus Gummifer Gum	Core
2	Hyaluronic Acid, M/L MW	Core
3	Ceramides, Resveratrol, Copper peptide	Core
4	Hydroxypropyl Cellulose	Shell
5	Hyaluronic Acid, HMW	Shell
Pentylene Glycol, Caprylyl Glycol, Propanediol, Ethylhexylglycerin		

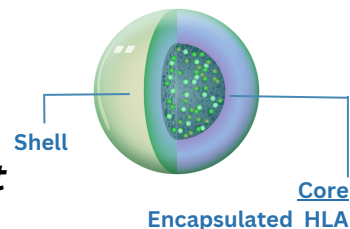
Formulation:

HydroSal® Youth should be added at the end of formulation at around or below 40 C.

Store the product in a tightly closed container at room temperature

Shelf Life: 12-18 months at room temperature





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Applications

Table 3. Lotion with 2% HydroSal® Youth

Phase	List of Ingredients	Weight (%)
A1	Aqua	58.0
A2	Glycerin	6.0
A3	Xanthan Gum	1.0
B1	Cetearyl Alcohol (and) Cetearyl Glucoside	4.0
B2	Coco Glucoside	4.0
B3	Cetearyl Alcohol	6.0
B4	Butyrospermum Parkii (Shea) Butter	6.0
B5	Isononyl Isononate	6.0
B6	Squalane	6.0
C1	HydroSal® Youth PID 8837-09	2.0
C2	Pentylene Glycol (and) Caprylyl Glycol (and) Propanediol (and) Ethylhexylglycerin	1.0
	Total	100.0

PROCEDURE

1. Mix ingredients of Phase A sequentially in main vessel, pre-mixing A2 and A3.
2. Add phase B sequentially in a separate vessel and heat both vessels to 60-75C
3. When both have reached temperature, add phase B to A, remove from heat and mix at 600rpm
4. At 40C add Phase C under mixing
5. Cool to room temp. Adjust pH with 20% Lactic Acid or 20% L-Arginine if necessary.

Formulation Tips:

HydroSal® Youth is a versatile technology that can be incorporated into a wide range of skincare and beauty products due to its hydrating and skin-plumping properties.

Here are some common types of products that benefit from adding HydroSal® Youth:

Moisturizers help to hydrate the skin and maintain moisture balance. HydroSal® Youth can be included in daytime and nighttime moisturizers to provide long-lasting hydration.

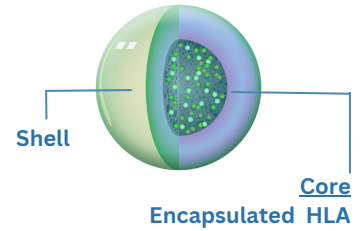
Serums are lightweight, highly concentrated formulations designed to target specific skincare concerns. HydroSal® Youth can be added to serums to deliver intense hydration and plumping

Essences and Toners are lightweight liquids applied to the skin after cleansing to prepare it for subsequent skincare products. HydroSal® Youth can be incorporated into these products to hydrate the skin after cleansing

Eye Creams containing HydroSal® Youth help to hydrate, smooth, and reduce the appearance of fine lines and wrinkles in the eye area.

Sunscreens containing HydroSal® Youth provide hydration and prevent moisture loss while protecting the skin from harmful UV rays

Makeup Products such as foundations, primers, and tinted moisturizers can incorporate HydroSal® Youth to keep the skin hydrated throughout the day



HydroSal® Youth

Blend for Youthful, Rejuvenated Skin

Substantiation

Ingredient	Description	Substantiation
Hyaluronic Acid (HLA)	Hyaluronic Acid can be used to rejuvenate the skin for a youthful and fuller look	https://www.sciencedirect.com/science/article/abs/pii/S014181301833770X
LMW HLA	Low molecular weight HLA is more easily absorbed to help deeper layers of the skin and create lasting change	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7464276/
HMW HLA	High molecular weight HLA has more mass and is therefore more effective, though less penetrating. This causes a greater effect at the upper layers of the skin	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7464276/
Ceramides	“Ceramides are fats or lipids that are found in skin cells. They make up 30% to 40% of your outer skin layer, or epidermis” “Ceramides play a role in your skin’s barrier function...” “Ceramides are important for retaining your skin’s moisture...”	https://www.webmd.com/beauty/what-to-know-about-ceramides-for-skin
Copper Tripeptide	“The main use of copper peptides for skin is their anti-aging and skin-healing benefit. Regular use of copper peptides can lead to a noticeable reduction in the appearance of fine lines and wrinkles. As a result skin is left smoother and more refined. They can also enhance skin elasticity and firmness. This helps combat the sagging that often accompanies skin aging.”	https://cityskinclinic.com/benefits-copper-peptides-skin/#:~:text=Regular%20use%20of%20copper%20peptides,that%20often%20accompanies%20skin%20aging.
Resveratrol	“ In addition to the antimicrobial and enzyme-regulatory properties of resveratrol, it also shows anti-oxidant and anti-inflammatory properties.”	https://pubmed.ncbi.nlm.nih.gov/33320761/
HydroSal Technology	Proprietary encapsulation technique	Salvona