Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

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Product Name: Hydro Isomerate

INCI Name: Fructooligosaccharides, Saccharide Isomerate, Water

CAS: 308066-66-2, 100843-69-4, 7732-18-5

Chemical Classification: Mixture

Functional Category: Skin Conditioning Agent ~ Humectant, Emollient, Prebiotic

IUPAC Name: Sucrose (2R,3R,4S,5S,6R)-2-[(2S,3S,4S,5R)-3,4-dihydroxy-2,5-bis(hydroxymethyl)oxolane-2-yl]oxy-6-(hydroxymethyl)oxane-3,4,5-triol

Description: Hydro Isomerate is an innovative cosmetic complex developed from fructooligosaccharides and saccharide isomerate dissolved in water. The product is also known as Pentavitin or Saccharomyces cerevisiae extract. It is derived from the carbohydrates of the yeast Saccharomyces cerevisiae—the same species used in baking and brewing—and is intended for professional use in the cosmetics industry as an active ingredient in skincare products. This formulation provides deep hydration, strengthens the natural microbiome, and aids in restoring the skin's protective barrier, thereby enhancing its resilience and overall appearance. Fructooligosaccharides function as natural prebiotics by promoting the development of beneficial skin microorganisms. Maintaining microbiome balance is crucial for skin health as it prevents the proliferation of pathogenic bacteria and reinforces the skin's natural defenses, thus reducing the risk of irritation, inflammation, and barrier disruption. Saccharide isomerate acts as a potent humectant by mimicking the skin's natural moisturizing factor (NMF). By binding to keratinocytes in the epidermis's outer layer, it forms a protective film that retains moisture and prevents water loss. The hydrating effect may last up to 72 hours after application—even after rinsing. In addition to hydration, saccharide isomerate reinforces the skin's protective function, reduces transepidermal water loss (TEWL), and improves elasticity and smoothness. Water in this formulation serves as a stabilizer and solvent, ensuring efficient distribution and rapid absorption of the active ingredients into the epidermis. Hydro Isomerate delivers a strong synergistic effect by combining hydration and skin protection. It is particularly effective in formulations for dry, sensitive, or irritated skin, as it helps preserve the protective function, minimizes a feeling of tightness, and restores elasticity. Ideal for use in creams, lotions, serums, and masks

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targeting deep hydration and barrier restoration, this complex is especially beneficial when the skin is exposed to external aggressors such as cold, wind, or pollution. Regular use of the Hydro Isomerate complex helps maintain a healthy, refreshed, and balanced complexion, leaving the skin soft, smooth, and protected. It is also incorporated into hair care products, where it supports scalp hydration and enhances overall hair condition.

Benefits:

- Provides deep, long-lasting hydration for up to 72 hours.
- Strengthens the skin's natural microbiome and supports beneficial bacterial balance.
- Enhances the skin's protective barrier and reduces moisture loss.
- Lowers transepidermal water loss (TEWL) and prevents dehydration.
- Improves elasticity while making the skin softer and smoother.
- Soothes irritations and reduces redness, making it suitable for sensitive skin.
- Protects against harmful external influences such as pollution and UV radiation.
- Mimics the natural moisturizing factor (NMF) to boost the skin's moisture retention.
- Contributes to a fresher, healthier, and more balanced complexion.
- Helps preserve skin structure and prevents loss of firmness.

Usage: Hydro Isomerate is used in various cosmetic formulations that require deep hydration and barrier reinforcement. It is most commonly added to the aqueous phase of a formulation and should be incorporated during the cooling phase (below 40°C) to preserve its efficacy. In moisturizing creams and lotions, the recommended concentration typically ranges from 1% to 5%—with lower percentages providing basic hydration and higher ones delivering an intensified effect, especially in products for dry and sensitive skin. In serums, where a more targeted effect is desired, a concentration of 2% to 5% is advised to ensure prolonged moisture retention and barrier reinforcement. For skin-soothing products such as masks or treatments for irritated skin, concentrations up to 5% may be used to maximize the reduction of redness and irritation. In hair care products like conditioners or masks, concentrations between 1% and 3% improve scalp hydration and fortify the scalp's protective function. Optimal application requires careful dosing and proper incorporation to achieve maximum efficacy and maintain ingredient stability.

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Comparison of Saccharide Isomerate and Hyaluronic Acid: Saccharide isomerate and hyaluronic acid both serve as potent humectants but differ in their mechanism and duration of effect. Saccharide isomerate binds to skin cells and creates a moisture reservoir lasting up to 72 hours, even after rinsing, while hyaluronic acid provides rapid but short-lived hydration that necessitates reapplication. Furthermore, saccharide isomerate reinforces the skin's protective barrier and reduces TEWL, whereas hyaluronic acid primarily acts on the surface without significantly strengthening the barrier. Saccharide isomerate also exhibits soothing properties by reducing redness and irritation, making it more appropriate for sensitive skin, while hyaluronic acid is favored for its immediate refreshing and wrinkle-plumping effects. Combining both ingredients offers optimal results by delivering instant hydration coupled with long-lasting moisture retention.

Comparison of Saccharide Isomerate and Gamma Polyglutamic Acid: Gamma polyglutamic acid provides intense and immediate hydration with a moisture retention capacity surpassing that of hyaluronic acid, while also enhancing skin elasticity and gently promoting natural exfoliation. In contrast, Hydro Isomerate works deeper and longer by binding to keratin in the skin and reinforcing its protective barrier, making it ideal for alleviating dryness and preventing water loss. Whereas γ-PGA offers rapid smoothing and refreshing effects, Hydro Isomerate ensures a sustained hydration effect, keeping the skin continuously moisturized and resilient.

Natural or Synthetic Ingredient: 100% natural ingredient

Method of Production: Fructooligosaccharides are obtained by the enzymatic hydrolysis of plant sources rich in sucrose, such as sugarcane or chicory, while saccharide isomerate is derived from the carbohydrates of Saccharomyces cerevisiae yeast through enzymatic isomerization.

Animal Testing: The substance has not been tested on animals

GMO: Non-GMO

Vegan: Does not contain animal-derived components

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