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Product Name: Lime Flower Extract & Hyaluronate Gel

INCI Name: Aqua, Glycerin, Sodium Hyaluronate, Tilia Cordata Flower Extract, Benzyl Alcohol, Dehydroacetic Acid

CAS: 7732-18-5, 56-81-5, 9067-32-7, 84929-52-2, 100-51-6, 520-45-6

Product Quality: Ready-to-use hydrating complex combining a 2% hyaluronate gel with lime flower extract.

Chemical Classification: Aqueous hydrating gel based on a polysaccharide and botanical extract.

Functional Category: Humectant; skin-conditioning agent; hydrating active ingredient.

Description: Lime Flower Extract & Hyaluronate Gel is a ready-to-use hydrating complex intended for direct incorporation into cosmetic formulations for hydration, softening and improvement of skin appearance. Sodium Hyaluronate, the sodium salt of hyaluronic acid, binds water in the superficial layers of the skin and forms a thin hydrating film. It therefore contributes to increasing the water content of the stratum corneum, improving softness, smoothness and the appearance of elasticity, and may temporarily reduce the visibility of fine lines associated with dehydration. Glycerin additionally supports the humectant effect. Lime flower extract (*Tilia cordata*) is a botanical component that may contain hydrophilic phytoconstituents, including polysaccharides and mucilages, flavonoids and phenolic compounds, depending on the extraction and standardization process. It has traditionally been used in cosmetic formulations intended for dry, sensitive and dehydrated skin. The combination of Sodium Hyaluronate, glycerin and lime flower extract provides a lightweight hydrating complex compatible with the aqueous phase of cosmetic formulations. The system is preserved with Benzyl Alcohol and Dehydroacetic Acid.

Physicochemical Properties: A lightweight aqueous gel suitable for direct dispersion into the water phase or for addition during the final stage of production. Sodium Hyaluronate is a hydrophilic polysaccharide with pronounced water-binding capacity. The viscosity of the complete system may be influenced by pH, electrolyte concentration, cationic ingredients and other polymers present in the finished formulation.

Bioactive Components: Sodium Hyaluronate acts primarily as a humectant and film-forming polymer. Glycerin additionally binds and retains water in the stratum corneum. Lime flower extract may contain polysaccharides, mucilages, flavonoids and phenolic compounds that contribute to skin conditioning and a more pleasant sensory

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profile of the finished product. The primary cosmetic action of topically applied Sodium Hyaluronate is based on hydration of the superficial skin layers and formation of a hydrating film; it should not be described as directly penetrating into deeper skin layers and binding to collagen and elastin without appropriate molecular-weight and penetration data.

Benefits:

- **Intensive hydration:** contributes to increasing water content in the superficial layers of the skin.
- **Moisture retention:** helps bind water and reduce transepidermal water loss.
- **Softness and smoothness:** contributes to a softer, smoother and more comfortable skin feel.
- **Dehydration-related fine lines:** may temporarily reduce their appearance by increasing hydration of the stratum corneum.
- **Dry-skin comfort:** contributes to reducing sensations of dryness and tightness.
- **Broad formulation use:** suitable for dry, dehydrated, mature and sensitive skin.

Usage: Lime Flower Extract & Hyaluronate Gel is added to the aqueous phase or during the final stage of production, preferably at lower temperatures to preserve gel viscosity and the properties of the botanical extract. No prior neutralization or special preparation is required. In hydrating creams and lotions it is most commonly used at 5-10%, while in serums, gels and emulgels typical concentrations are approximately 10-20%, depending on the desired hydrating effect and sensory profile. It is compatible with most standard cosmetic ingredients, including niacinamide, stable vitamin C derivatives, peptides, panthenol, allantoin and other humectants. In formulations with high electrolyte content, strong acids or cationic ingredients, preliminary compatibility testing is recommended because such materials may affect the viscosity of Sodium Hyaluronate-based systems. It may also be used in preparations for skin care before and after sun exposure, skin-cleansing products, formulations intended for sensitive areas such as the eye area, and hair and scalp care products, subject to an appropriate assessment of the finished product. For external use only.

Safety of Use: Sodium Hyaluronate generally shows very good tolerability when applied topically. The safety of the finished product depends on the concentration of the complete commercial blend, its preservative system, the pH of the finished formulation and the intended site of application. In sensitive individuals, Benzyl Alcohol may exhibit irritant or sensitizing potential; therefore, the concentration and labeling of the finished product must comply with applicable regulatory requirements. Particular attention

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should be paid to formulations intended for sensitive areas such as the eye area.

Animal Testing: In accordance with EU Regulation (EC) No. 1223/2009 on cosmetic products, this raw material has not been tested on animals. Safety assessment is based on available toxicological data, scientific literature and validated alternative testing methods (in vitro and in silico). In silico is a term used for testing and assessment methods carried out using computer models and simulations, rather than laboratory testing on living organisms (in vivo) or cell cultures (in vitro). This note serves solely for informational purposes for further use of the raw material in cosmetic formulations.

GMO: Non-GMO

Vegan: Contains no animal-derived components.

Country of Origin: China

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