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info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

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Product Name: LactoSilk Lysate

INCI Name: Lactobacillus Ferment Lysate, Silk Fibroin

CAS: N/A, N/A, 7377-03-9, 25265-75-2, 70445-33-9

Synonyms: Lactobacillus Lysate; Fermented Lactobacillus Lysate; Silk Protein Ferment Complex; Postbiotic Skin Barrier Complex

Chemical Classification: Fermentation lysates and postbiotic biotechnological complex

Functional Category: Skin conditioner; postbiotic active; antioxidant and soothing active; skin barrier support ingredient; anti-age active

Product Description: LactoSilk Lysate is a modern postbiotic cosmetic active combining Lactobacillus ferment lysate and silk fibroin. It is intended for formulations designed for sensitive, reactive, dry and weakened skin, as well as skin exposed to external stressors. The fermentation lysate is a non-living fraction obtained after the fermentation process and may contain various cellular components, metabolites, peptides, amino acids, organic acids and polysaccharide fractions, depending on the manufacturing technology. These components contribute to skin conditioning and may support a favorable microenvironment on the skin surface. Silk fibroin additionally contributes to the sensory profile of the formulation, formation of a thin film and improvement of the feeling of softness, smoothness and hydration. After application, the skin may appear calmer, more even and better conditioned, with a pleasant feeling of comfort. The complex is suitable for serums, emulsions, gel-creams, toners, mists and lightweight leave-on formulations. It may also be used in decorative cosmetics when the aim is to improve skin feel and provide a fresher-looking appearance.

Mechanism of Action: The mechanism of action of LactoSilk Lysate is based on the combination of Lactobacillus fermentation lysate and silk fibroin. Components of the fermentation lysate may contribute to maintaining a favorable microenvironment on the skin surface and support its natural balance, while specific claims regarding direct modulation of the skin microbiome should be supported by appropriate manufacturer documentation. Fermentation metabolites, peptides, amino acids and polysaccharide fractions may contribute to reducing the sensation of discomfort and improving the skin's resilience to external factors. The complex also contributes to antioxidant support of the skin and formulation, which is relevant for skin exposed to UV radiation, pollution and other sources of oxidative stress. Silk fibroin forms a lightweight film on the skin surface, thereby helping to reduce transepidermal water loss and improve the sensation

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of hydration. At the same time, it enhances smoothness and provides a silky sensory profile to the finished formulation.

Benefits:

- Helps reduce the sensation of irritation and discomfort in sensitive and reactive skin.
- Contributes to maintaining the protective function of the skin and its natural balance.
- Helps provide antioxidant protection against external factors associated with oxidative stress.
- Improves the sensation of hydration and contributes to a softer and smoother skin appearance.
- Silk fibroin forms a lightweight, silky film and contributes to a pleasant sensory profile.
- Suitable for formulations intended for dry, sensitive and mature skin.

Use and Recommended Concentrations: LactoSilk Lysate is most commonly used in formulations intended for sensitive, reactive and dehydrated skin, as well as in anti-age and barrier-repair products. It is suitable for serums, emulsions, gel-creams, toners, mists, sheet masks and lightweight leave-on formulations. Addition during the cool-down phase or at temperatures below 40 °C is recommended in order to preserve the stability of the fermentation components and silk fibroin. It combines well with hyaluronic acid, panthenol, beta-glucan, ceramides, niacinamide and mild humectants, subject to compatibility testing in the final formulation. In serums and lightweight gel formulations it is most commonly used at 1-3%. In emulsions, creams and barrier-repair products, the recommended range is approximately 2-5%. In after-sun and soothing formulations it may be used at approximately 3-5%, while in decorative cosmetics it is typically used at 0.5-2%. For products intended for skin after aesthetic procedures, use must be aligned with the safety assessment of the final formulation and the recommendations applicable to the specific procedure.

Safety Assessment: Lactobacillus Ferment Lysate belongs to the group of non-living fermentation derivatives used in cosmetics as skin-conditioning ingredients. The safety of the final product depends on the quality of the fermentation process, microbiological purity, concentration of the blend and the overall preservation system of the formulation. Fermentation lysates do not contain active bacterial cultures capable of proliferation, which distinguishes them from products containing live probiotic microorganisms. Claims regarding specific effects on hydration, transepidermal water

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loss, the microbiome or tolerability in sensitive skin should be supported by manufacturer documentation and studies performed on the specific raw material. Silk fibroin is a protein of animal origin; therefore, its purity, processing method and potential sensitization risk in susceptible individuals should also be considered in the safety assessment.

Animal Testing: In accordance with current European legislation (Regulation (EC) No. 1223/2009 on cosmetic products), the raw material has not been tested on animals. The safety assessment is based on available toxicological data, scientific literature and validated alternative testing methods (in vitro and in silico).

GMO: Non-GMO

Vegan: Not vegan - contains Silk Fibroin, a protein of animal origin obtained from silk produced by the silkworm (Bombyx mori)

Storage and Shelf Life: Store in a cool, dry place, preferably at 4-10 °C, protected from strong light and heat sources. Keep the product in its original, tightly closed container.

Country of Origin: China