

TECHNICAL DATA SHEET

Product Name: Lactobacillus Ferment Filtrate

INCI name: Lactobacillus Ferment Filtrate, Hydroxyacetophenone, 1,2-Hexanediol

CAS: n/a, 99-93-4, 6920-22-5

Chemical classification: Mixture

Functional category: Skin conditioner, antioxidant, humectant, preservative (secondary function – due to Hydroxyacetophenone and 1,2-Hexanediol system).

Description: Lactobacillus Ferment Filtrate is a biotechnological ingredient obtained by fermenting selected strains of Lactobacillus under controlled conditions. During fermentation, a filtrate rich in bioactive compounds such as peptides, enzymes, amino acids, organic acids, and polysaccharides is produced. This complex of natural metabolites makes it valuable in modern cosmetic formulations, particularly in products designed to strengthen the skin's protective barrier and support its microbiota. The presence of lactic acid and other metabolites provides mild exfoliating action while maintaining the skin's optimal pH, thus improving hydration and softness. Thanks to its antioxidant properties, the filtrate helps neutralize free radicals and reduce oxidative stress, while its immunomodulatory components stimulate the skin's natural defense mechanisms. It is particularly suitable for sensitive and reactive skin prone to irritation, as it reduces redness and enhances the stability and resilience of the epidermal barrier. In addition to its protective and soothing effects, Lactobacillus Ferment Filtrate improves skin texture and tone, while its bioactive molecules support regeneration and help diminish visible signs of fatigue and aging. Its multifunctionality is also reflected in creating an unfavorable environment for pathogenic microorganisms, while promoting the growth of beneficial bacteria on the skin's surface. When combined with moisturizers and antioxidants, it exhibits a synergistic effect, making formulations more stable, effective, and suitable for daily care. Owing to its gentle yet complex action, Lactobacillus Ferment Filtrate is increasingly used in dermocosmetics, especially in products aimed at protecting, refreshing, and regenerating the skin, as well as in treatments focused on maintaining a healthy microbiome and preventing premature aging.

Bioactive compounds: Lactobacillus Ferment Filtrate contains a broad spectrum of bioactive substances. Notably, it includes peptides and low-molecular-weight protein

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fragments that promote skin renewal and repair. These peptides include antimicrobial “bacteriocins” such as plantaricin, acidocin, gassericin, and helveticin, which inhibit the growth of pathogenic microorganisms and help maintain a healthy skin microbiome. It also contains immunomodulatory peptides that affect cellular signaling pathways, reduce inflammation, and enhance the skin’s natural resistance. The filtrate contains enzymes such as proteases and lipases, contributing to mild exfoliating and revitalizing effects on the epidermis. Organic acids – especially lactic acid – help regulate pH and maintain hydration, while acetic and succinic acids further reinforce antimicrobial activity and microbiome stability. Amino acids such as glutamic acid, alanine, serine, and proline provide building blocks for protein synthesis and support skin moisture balance. Exopolysaccharides form a thin protective film on the skin’s surface, reducing transepidermal water loss and improving smoothness. Lipoteichoic acid fragments from bacterial cell walls exert immunomodulatory effects and strengthen the skin’s defense mechanisms. The filtrate also contains antioxidant metabolites that neutralize free radicals and protect cellular structures from oxidative damage. Fermentation produces B-complex vitamins (niacin, riboflavin, pyridoxine) that enhance cellular metabolism and overall epidermal health. Owing to this rich composition, Lactobacillus Ferment Filtrate is a multifunctional ingredient that hydrates, repairs, and protects the skin while reinforcing its barrier and resilience.

Benefits:

- Improves the skin’s natural barrier function
- Helps maintain microbiome balance
- Provides antioxidant protection against free radicals
- Delivers mild hydration and moisture retention
- Soothes irritated and sensitive skin
- Enhances formula stability through antimicrobial activity

Usage: Lactobacillus Ferment Filtrate is used as an active ingredient in serums, creams, emulgels, and toners for skin care. It should be added during the final phase of formulation, at lower temperatures, to preserve the stability of its bioactive compounds. Recommended concentrations vary by product type and desired effect: 1–3% in toners, 3–5% in anti-age serums and creams. In products for sensitive areas such as the skin around the eyes, it is used at the lower end of the range, while barrier-strengthening formulas use higher levels. It is compatible with most actives and reduces the risk of

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irritation. When combined with AHA or BHA acids, it mitigates potential irritation; however, acid concentrations should remain moderate to maintain ferment stability. With retinoids, it helps preserve barrier function and reduce redness. In combination with hyaluronic acid, glycerin, and other humectants, it enhances hydration. When paired with vitamins C or E, it contributes to antioxidant protection. It should not be combined with strong preservatives or high alcohol content, as these may reduce its biological activity.

Animal testing: In compliance with EU Regulation (EC) No 1223/2009 on cosmetic products, this substance has not been tested on animals. Safety assessment is based on toxicological data, scientific literature, and validated alternative test methods (in vitro and in silico). In silico refers to computer-based modeling and simulations, rather than laboratory testing on live organisms (in vivo) or cell cultures (in vitro). This note confirms adherence to the animal-testing ban and serves for informational purposes regarding its use in cosmetic formulations.

GMO: Non-GMO

Vegan: Contains no animal-derived components

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