

TECHNICAL DATA SHEET

Product name: Acetyl Tetrapeptide-5

INCI name: Water, Glycerine, Acetyl Tetrapeptide-5, (+)-Arabinogalactan, 3-O-Ethyl Ascorbic Acid, Phenoxyethanol, Ethylhexylglycerin

CAS: 7732-18-5, 56-81-5, 820959-17-9, 9036-66-2, 86404-04-8, 122-99-6, 70445-33-9

Chemical classification: Synthetic tetrapeptide in aqueous/glycerin solution.

Functional category: Skin conditioning agent, cosmetic anti-wrinkle peptide, ingredient intended for care of sensitive areas such as the skin around the eyes.

Description: Acetyl Tetrapeptide-5 is a synthetic biomimetic peptide used in modern dermocosmetic formulations intended to reduce visible signs of skin fatigue and aging, particularly in sensitive areas such as the skin around the eyes. The peptide is designed to reproduce natural regulatory amino-acid sequences present in human skin, providing high bioavailability and good tolerance even for very sensitive skin types. In cosmetic products it is typically supplied as a stable aqueous or glycerin solution. The presence of arabinogalactan and 3-O-ethyl ascorbic acid improves peptide stability and supports absorption. Arabinogalactan acts as a natural polysaccharide that enhances the hydration capacity of the formulation, while the ethylated derivative of vitamin C contributes to oxidative stability and helps support a more even skin tone. Phenoxyethanol and ethylhexylglycerin serve as mild preservatives, ensuring microbiological stability of the system without the use of parabens or aggressive preservative systems. Physically, Acetyl Tetrapeptide-5 appears as a clear to slightly opalescent liquid, soluble in water and glycerin, with a neutral odor and stability at moderate temperatures. It is compatible with most common cosmetic ingredients including hyaluronic acid, niacinamide, caffeine and botanical extracts. The peptide remains stable in a pH range between 4.0 and 7.0, which makes it suitable for use in gels, serums and emulsions without significant degradation. Peptide content: 1000 ppm. According to Regulation (EC) No. 1272/2008, the ingredients present in this mixture are not classified as hazardous substances.

Mechanism of action: Acetyl Tetrapeptide-5 helps improve capillary blood flow, supporting microcirculation and enabling improved delivery of oxygen and nutrients to skin cells. This contributes to cellular nourishment and regeneration while assisting in the

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removal of metabolic waste products, helping the skin appear fresher and healthier. In the delicate eye area, where the skin is thin and prone to fluid retention, improved circulation may visibly reduce dark circles and under-eye puffiness. One of the key effects of Acetyl Tetrapeptide-5 is the stabilization of capillaries through reduction of their permeability and prevention of fluid leakage into surrounding tissues. This helps reduce swelling and contributes to the prevention of dark circles under the eyes, improving the overall appearance of tired skin. Acetyl Tetrapeptide-5 also supports lymphatic drainage, assisting in the elimination of excess fluid and metabolic by-products from tissues. This effect is particularly relevant in the eye area, where fluid accumulation can lead to visible puffiness. By supporting lymphatic drainage, the peptide helps reduce swelling and contributes to a smoother and more defined skin contour. The peptide also demonstrates anti-inflammatory properties that help reduce skin irritation caused by factors such as stress, UV radiation, pollution or general skin sensitivity. By moderating inflammatory responses, it can help reduce redness, irritation and swelling. By supporting moisture retention, Acetyl Tetrapeptide-5 helps improve skin elasticity and resilience against the formation of fine lines and wrinkles. Well-hydrated skin appears smoother, firmer and more capable of maintaining a youthful appearance. As an antioxidant, Acetyl Tetrapeptide-5 contributes to the neutralization of free radicals and helps protect collagen and elastin, key structural proteins responsible for skin firmness and elasticity. This protective effect supports preservation of skin structure and helps slow visible signs of aging.

Benefits:

- Improves capillary blood circulation and supports stabilization of capillary walls while promoting lymphatic drainage.
- Helps reduce under-eye puffiness and dark circles.
- Helps reduce inflammation and skin irritation.
- Supports collagen and elastin production, improving skin firmness and elasticity.
- Helps reduce the appearance of fine lines and wrinkles.
- Supports skin hydration, improving elasticity and resistance to dryness.
- Acts as an antioxidant helping protect collagen and elastin from free radical damage, supporting a slower visible aging process.

Recommended use: In formulations intended for the care of sensitive areas such as the skin around the eyes (eye creams and gels), Acetyl Tetrapeptide-5 is typically used at

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concentrations between 1% and 3%. This range allows effective reduction of puffiness and dark circles while improving skin elasticity in delicate areas. These levels are generally sufficient to achieve visible cosmetic effects while minimizing the risk of irritation. In anti-aging serums and facial creams intended for the entire face, typical use levels range from 1% to 2%. Within these formulations the peptide supports skin tone improvement and contributes to stimulation of collagen and elastin synthesis, helping reduce the appearance of fine lines and wrinkles. In moisturizing lotions and creams it may be used at lower concentrations, typically 0.5% to 1%, which is sufficient to support skin hydration and improve smoothness and elasticity. The mixture is incorporated into the water phase of cosmetic formulations. Proper mixing is required to ensure uniform distribution of the peptide throughout the product, ensuring consistent activity across the skin surface. During formulation, temperatures should be maintained below 40 °C in order to preserve peptide stability. Acetyl Tetrapeptide-5 can be combined with other active ingredients such as hyaluronic acid, vitamins and antioxidants to enhance hydration, protective and anti-aging effects. Due to its compatibility with a wide range of ingredients, it can be integrated into many types of cosmetic products designed for targeted skin treatments.

Animal testing: In accordance with current European regulations (Regulation (EC) No. 1223/2009 on cosmetic products), this substance has not been tested on animals. The safety evaluation is based on available toxicological data, scientific literature and validated alternative testing methods (in vitro and in silico). The term in silico refers to evaluation methods performed using computer-based models and simulations rather than testing on living organisms (in vivo) or cell cultures (in vitro). This statement confirms compliance with the ban on animal testing and is provided for informational purposes regarding the use of this raw material in cosmetic formulations.

GMO: Not GMO

Vegan: Does not contain ingredients of animal origin

Storage: The material may be transported safely at temperatures up to 25 °C without significant loss of stability during short exposures. For long-term storage, refrigeration between 4 and 8 °C is recommended. Peptides are sensitive to degradation caused by prolonged exposure to heat, light and moisture. Lower temperatures slow degradation processes and help preserve bioactivity. Proper refrigerated storage ensures that the peptide maintains its effectiveness and stability throughout its declared shelf life.

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