

TECHNICAL DATA SHEET

Product Name: Plant Keratin

INCI Name: Hydrolyzed Vegetable Protein

CAS: 9015-54-7

Chemical Classification: Proteins/Derivatives

Functional Category: Skin and Hair Conditioning Agent

Description: A vegan alternative to animal-derived keratin, this product uses proteins from plant sources such as soy, rice, peas, or other plants with an amino acid profile similar to keratin. The amino acids in these plant proteins mimic keratin's function, repairing damage on the hair's surface, strengthening it, and improving elasticity, strength, and shine. This alternative is also gluten-free, important for individuals with gluten intolerance or celiac disease. Plant proteins are gentler on hair, offering long-lasting protection and are suitable for vegan formulations as they contain no animal-derived products. These plant proteins provide natural restoration and long-term protection by penetrating deeper into hair and skin layers. They repair keratin fibers, reduce breakage, and improve hair elasticity, resulting in natural shine and smoothness. Additionally, they create a protective layer on the hair's surface, acting as a barrier against UV radiation and other environmental damage, ensuring long-term protection and resilience against further harm. Plant Keratin rejuvenates the hair's surface, giving it a healthier, younger appearance, which is especially beneficial for achieving naturally shiny and smooth hair. It is quickly absorbed by the skin thanks to its low molecular weight, helping to retain moisture and reduce transepidermal water loss. This ability contributes to skin elasticity and softness, making it particularly useful for dry and sensitive skin. Plant Keratin is a gentle ingredient suitable for vegan formulations, as it contains no animal-derived components. In hair care products, recommended concentrations range between 0.5% and 2%, while it is used in slightly lower concentrations in skincare products. The product contains approximately 0.8% sodium benzoate as a preservative, preventing microbial growth and extending shelf life. To maintain stability, storage in original sealed containers at temperatures between +10 °C and +40 °C is recommended. The shelf life is 24 months. During storage, slight precipitation or darkening may occur, which does not affect the quality or effectiveness of the product.

Disclaimer: The details provided here are specific to the identified material and may not remain accurate if that material is combined with other substances or used in different processes. The information presented is, to the best of the company's knowledge, considered precise and trustworthy as of the date mentioned. However, the company does not make any explicit or implied assurance, guarantee, or claim regarding the information's precision, trustworthiness, or comprehensiveness, and will not be held accountable for any losses, damages, or costs, whether direct or indirect, that arise from its use. Users are encouraged to independently verify the appropriateness and thoroughness of this information for their specific purposes.

TECHNICAL DATA SHEET

Mechanism of Action: Hydrolyzed plant proteins with an amino acid spectrum similar to keratin work on several levels when applied to hair and skin. At the molecular level, hydrolysis breaks down protein chains into smaller fragments, typically peptides and individual amino acids. These smaller fragments can more easily penetrate the hair cuticle and the epidermal layers of the skin. The hair cuticle is the outer layer of the hair, where cells overlap like roof shingles. When hair is damaged (due to heat, chemicals, or UV radiation), these "shingles" lift, leading to moisture loss, brittleness, and general weakness. Hydrolyzed proteins fill in these damaged areas by binding to weakened parts of keratin in the hair. Keratin is the main structural protein of hair, so an amino acid spectrum similar to keratin allows these plant proteins to perfectly integrate and help restore fibers. Once proteins penetrate damaged areas of the hair, they form a thin protective layer that strengthens the hair strand and reduces breakage. This protective film retains moisture within the hair, thereby improving hydration, elasticity, and flexibility. Additionally, the protective layer serves as a barrier against external factors like UV radiation, pollution, and harmful chemicals, protecting hair from further damage. Plant proteins with an amino acid spectrum similar to keratin act as a "filler," making hair healthier, stronger, and shinier. On the skin, hydrolyzed plant proteins penetrate the epidermis, acting as moisturizers and firming agents. Thanks to their low molecular weight, these protein fractions easily pass through the surface layer of the skin, retaining moisture in deeper layers. Proteins form a network on the skin's surface that retains water, improving hydration and elasticity. This is particularly important for dry and damaged skin, where restoring the barrier helps reduce transepidermal water loss (TEWL). Besides retaining moisture, the amino acids in these proteins participate in the synthesis of new proteins in skin cells, contributing to skin regeneration and improving its structure. Amino acids like cysteine and lysine, present in these plant proteins, help in the synthesis of collagen and elastin, key proteins for maintaining skin strength and elasticity. Furthermore, plant proteins possess antioxidant properties, meaning they help neutralize free radicals responsible for premature skin aging.

Benefits:

- Fills in damaged keratin fibers, making hair stronger and more resilient.
- Retains moisture in the deeper layers of skin and hair, improving elasticity and softness.
- Forms a protective layer that shields hair and skin from UV radiation, pollution, and chemical damage.

Disclaimer: The details provided here are specific to the identified material and may not remain accurate if that material is combined with other substances or used in different processes. The information presented is, to the best of the company's knowledge, considered precise and trustworthy as of the date mentioned. However, the company does not make any explicit or implied assurance, guarantee, or claim regarding the information's precision, trustworthiness, or comprehensiveness, and will not be held accountable for any losses, damages, or costs, whether direct or indirect, that arise from its use. Users are encouraged to independently verify the appropriateness and thoroughness of this information for their specific purposes.

TECHNICAL DATA SHEET

- Helps preserve hair and skin elasticity, reducing the tendency for breakage and damage.
- Restores the natural shine of hair, making it smoother and healthier.
- Neutralizes free radicals, slowing down the aging process of skin and hair.
- Suitable for vegan formulations and is gentle on the skin, without causing irritation.

Usage: Plant Keratin is used in various cosmetic formulations for hair and skin care, with recommended concentrations depending on the product type. In hair care products like shampoos, conditioners, and masks, it is typically used at concentrations of 0.5% to 2%, achieving optimal strengthening, repair, and protection effects for hair. These concentrations allow the proteins to penetrate the hair cuticle, strengthening damaged fibers and restoring their natural shine and elasticity. In skincare formulations, Plant Keratin is added at lower concentrations, generally between 0.1% and 0.5%. These amounts are sufficient to improve skin hydration and elasticity, while also protecting against external factors and free radicals. Plant Keratin is easily incorporated into cream, lotion, and serum formulations, providing long-lasting hydration and support for the skin's natural barrier. It is always important to pay attention to the stability of the formulation and the product's pH, as optimal conditions are key for maximizing the effectiveness of this ingredient.

Animal Testing: Substance has not been tested on animals

GMO: Non-GMO

Raw Material Origin: EU

Disclaimer: The details provided here are specific to the identified material and may not remain accurate if that material is combined with other substances or used in different processes. The information presented is, to the best of the company's knowledge, considered precise and trustworthy as of the date mentioned. However, the company does not make any explicit or implied assurance, guarantee, or claim regarding the information's precision, trustworthiness, or comprehensiveness, and will not be held accountable for any losses, damages, or costs, whether direct or indirect, that arise from its use. Users are encouraged to independently verify the appropriateness and thoroughness of this information for their specific purposes.