Bio-keratin PF

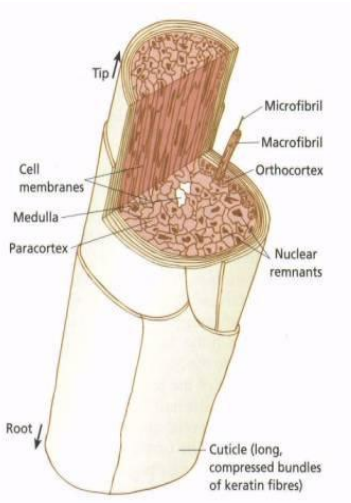
INCI name

Hydrolyzed Keratin

Description

Keratin is an extremely strong protein which is a major component in skin, hair, nails, hooves, horns, and teeth. The amino acids which combine to form keratin have several unique properties, and depending on the levels of the various amino acids, keratin can be inflexible and hard, like hooves, or soft, as is the case with skin. Most of the keratin is actually dead; hair, skin, and nails are all formed from dead cells which the body sheds as new cells push up from underneath. If the dead cells are kept in good condition, they will serve as an insulating layer to protect the delicate new keratin below them. Keratin is also the most resistant protein to external chemical, physical or mechanic agents. Keratin forms a family of fibrous proteins rich in sulphur.

Keratin is produced by the keratinocytes. At the hair, these cells are situated at the bottom of the dermal papilla. They multiply and differentiate: while some spread to the periphery of the hair follicle to form the internal and external epithelial sheaths, others become elongated to form the hair shaft. During this journey they fill with keratin fibers. As soon as they have filled with keratin, the keratinocytes die.



Due to its position as interface between the living layers of the skin and the external world, Keratin has a major role within the protection function of the skin and hair against the environmental aggressions (chemical, thermal, UV, ...), and with the hydro-regulation, elasticity and firmness functions.

Hair is made mainly of KERATIN. These cells lose their nucleus and die as they travel up the hair follicle. Approximately 91 percent of the hair is protein made up of long chains of amino acids.

Hair also contains fats, pigment (melanin), small amounts of vitamins, and traces of zinc and other metals.

Hair contains water which, although it makes up only 10-13% of the hair, is extremely important for its physical and chemical properties

BIO-KERATIN PF is an active ingredient obtained from a controlled bio-hydrolysis of native proteins coming chicken feathers.

Knowing these facts, it is clear the beneficial effects of the peptides of BIO-KERATIN PF, thanks to its functional characteristics and thanks to the bio-affinity and high homology, not only with the skin, but also to the hair and nails. Keratin included in feathers is resistant to the action

Bio-keratin PF

of polar solvents thanks to the high content of disulphide bonds and the great amount of hydrophobic amino-acids.

Effects in Cosmetic Products

We could separate the effects of BIO-KERATIN PF:

Benefits for the skin:

Filmogenic effect, substantive and conditioner of the superficial epidermis layers
Reinforces the cohesion of the epidermal corneocytes
Improvement, restoration and reparation of the superficial microrelief
Reinforce of the general protection and, in particular, photo-protection due to homologous biochemical metabolites

Benefits for the hair:

Conditioner and micro-filmogenic
Important substantivity
Reinforces the cohesion of the cuticulary scales
Improvement of the protection and restoration of the UV irradiation damages

BIO-KERATIN PF is the perfect active ingredient to use as:

- Treatment for skins lacking protection, altered because the aggression of environmental factors
- For colorless hair, altered from hair treatments and UV irradiation
- For the eyebrows and eyelashes, in order to protect and condition them, and to form an homologous substantive microfilm as protection
- It can be used in creams, lotions, shampoos, rinse-off or rinse-on products
- Protective make-ups

Dosage – Solubility – Processing

A- DOSAGE:

From 5 to 10%

B- SOLUBILITY:

Hydro soluble. Insoluble in oils.

Bio-keratin PF

C- PROCESSING:

BIO-KERATIN PF is compatible with most of the raw materials normally used in cosmetics. Nevertheless, it is the duty of the formulator to make sure of the stability of the formulae with the necessary tests.

It would be preferably incorporated into cosmetic preparations during the finishing process, at the cooling phase at around 50 ºC

Analytical Data

- APPEARANCE: Limpid liquid, light yellow, with a weak odor.
- pH: 5,00 –6,00
- Dry extract: 8,00 – 12,00%
- Relative Density (at 20 ^{0}C): 1,025 – 1,045
- Refractive index (at 20 ^{0}C): 1,340 – 1,360
- Total Nitrogen: 0,90 – 1,20%

- PRESERVATIVES: Paraben Free

- MICROBIOLOGY: Maximum 50 CFU/gram (not pathogenic)

- TOLERANCE: Excellent

- STORAGE: Store at room temperature, dry and away from light.

If original container is opened, to avoid secondary microbiological contamination handle with special care.