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KERATOS HH



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RESEARCH AND DEVELOPMENT

Product: **Keratos HH**

INCI: **Hydrolyzed Keratin**

CAS: **69430-36-0**

Preservative: **Phenoxyethanol + Caprylyl glycol.**

Free of parabens and formaldehyde.

Product dermatologically tested.

External use - only to be added in cosmetic products in the suggested dosages.

Manufacturer: **Elberbio Research and Development Ltd.**



KERATOS HH

STORAGE

Keratos HH should be kept in a closed container, away from heat, in a cool and ventilated place. Discreet precipitation may occur due to the association between peptides, not resulting in loss of product quality.

PRESENTATION

White opaque plastic packaging - 5L, 12.5L and 20L - (other volumes when requested).

BEST BEFORE

24 months from the date of manufacture.

DESCRIPTION

Keratin is an insoluble fibrous protein and one of the most important and abundant in nature, constituting almost the totality of our epidermis, hair and nails. Like collagen, it has a structural function. It consists of about 18 amino acids, the main one being cysteine. Keratos HH was specially developed, seeking to obtain a protein hydrolysate consisting almost exclusively of amino acids and dipeptides. Due to their small molecular sizes and relative hydrophobicity, these compounds have a high penetrating power in hair, skin and nails.

APPLICATIONS

Keratos HH is especially indicated as active in cosmetic formulations, such as shampoo, sprays for hair restructuring, moisturizing creams for the skin and strengthening nail.

SUGGESTED DOSAGES

Table 1 suggests dosages for Keratos HH in cosmetic formulations. However, different dosages can be used depending on the desired result and the time in which it is desired to achieve it.



Table 1. Cosmetic products and suggested dosages of **Keratos HH**.

Product	Dosage
Shampoo, Conditioner and Hair Mask	0.8 to 2.0%
Hair Leave-in	0.8 to 1.0%
Hair Restructuring	1.0 to 3.0%
Hydrant Cream	2.0 to 4.0%
Base/Nail Polish	4.0 to 6.0%

The results for the physical-chemical and microbiological analysis of **Keratos HH** are shown in Tables 2 and 3. These results may vary under other conditions and the analytical and sensorial methods employed.

Table 2. Results for physical-chemical and sensorial analysis of **Keratos HH**, lot HEQL529119.

Analytical Parameter	Specification
Appearance	Clear Amber Crystalline Liquid
Odor (olfactory)	Characteristic
pH	7.8 to 8.3
Dry Matter*	7.3 – 7.7
Ash Content*	< 1.8
Average Molecular Weight (MALDI-TOF)**	320 g/mol (Daltons)

(*) ADOLFO LUTZ INSTITUTE. Analytical Norms of the Adolfo Lutz Institute. v.1: Chemical and physical methods 4th ed. Brasilia: Publisher MS, 2005. 1018 p. (**) Bruker Guide to MALDI Sample Preparation – Instructions for Use. 2015. Bruker Daltonik GmbH. Bremen, Germany.

Table 3. Results for microbiological analysis of **Keratos HH**, lot 5 HEQL529119.

Parameters	Result
Counting of Moulds and Yeasts*	< 1UFC/ml
Counting of Total Coliforms**	< 1UFC/ml
Counting of mesophilic and aerobic micro-organisms viable at 30° C***	< 1UFC/ml

(*) ISO 21527-1: 2008. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeasts and moulds. (**) ISO 4832: 2006. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms. (***) ISO 4833: 2013. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of microorganisms.

Figure 1 shows the amino acids and peptides profiles of Keratos HH and the reproducibility in the processing of keratin hydrolysis of the 3 diferentes lots.

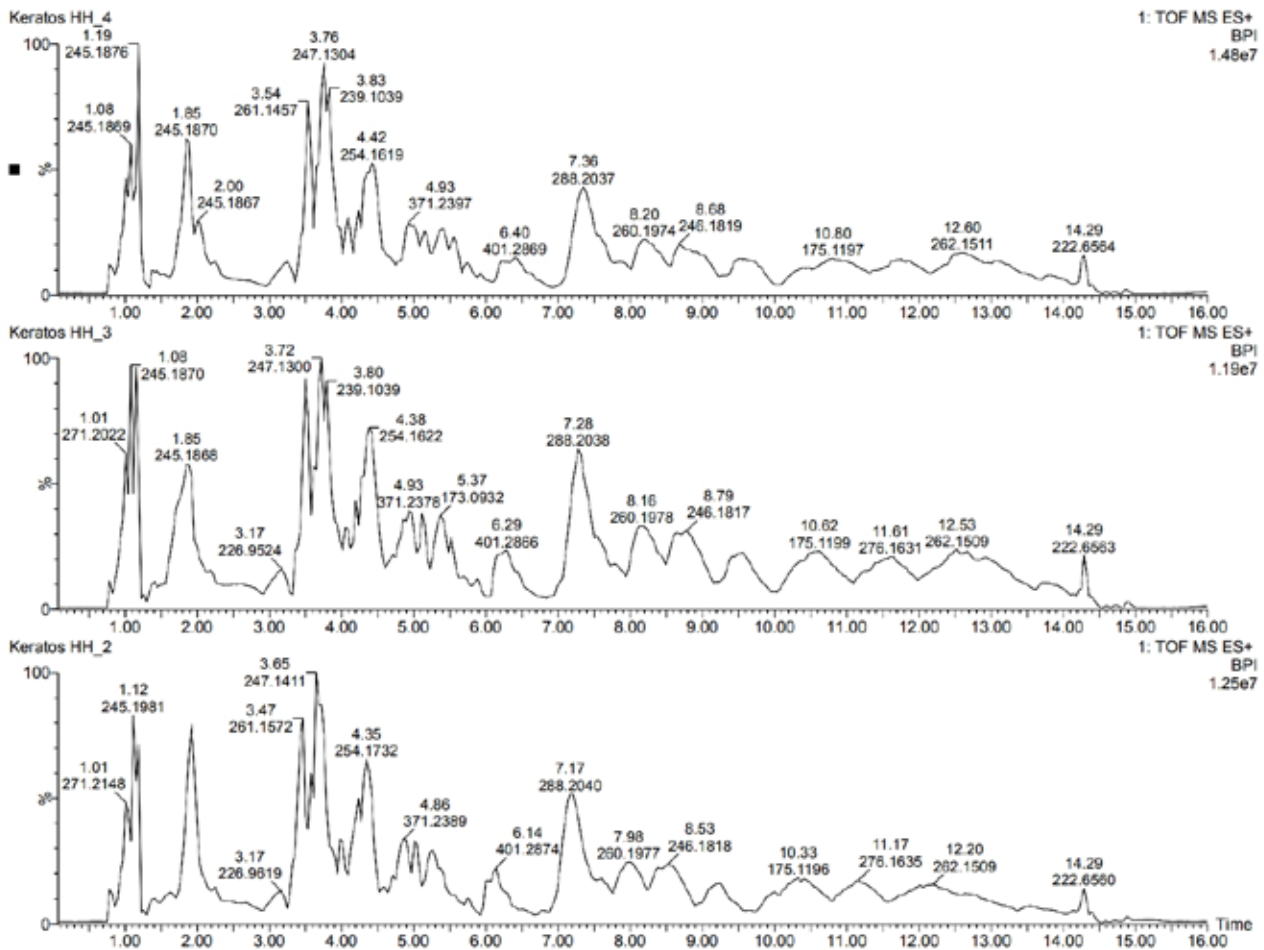


Figure 1. Mass spectrum of Keratos HH (lots 2, 3 and 4) showing the profiles of amino acids and peptides of the intensely hydrolyzed Keratin. Technique used: liquid chromatography of hydrophobic interaction coupling to mass ionization by nebulization and qTOF analyzer (HILIC-ESI-qTOF-MS)

Florianópolis, June 29th 2020

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