Title: EXTEMPORARY COSMETIC PREPARATION WITH A PROTECTIVE, NUTRITIONAL AND RESTRUCTURING ACTION FOR HAIR TREATMENT AND USE THEREOF

Abstract: The present invention relates to an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment, comprising a protein carrier, in the form of a liquid or granular solid with a high protein content, based on proteins of milk and derivatives, associated with a carrying fluid, the preparation being suitable for reinforcing the keratin structure of hair, maintaining an optimum hydric equilibrium and its colouring.
EXTEMPORARY COSMETIC PREPARATION WITH A PROTECTIVE, NUTRITIONAL AND RESTRUCTURING ACTION FOR HAIR TREATMENT AND USE THEREOF

The present invention relates to an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment.

The invention derives from the technical field of cosmetic products for hair treatment.

In particular, the present invention relates to an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment, suitable for reinforcing the keratin structure of hair, maintaining an optimum hydric equilibrium and its colouring.

A hair strand is a combination of keratinized and agglomerated cells in which keratin, various fats such as triglycerides, waxes, cholesterol, phospholipids, squalene, minerals such as iron, magnesium, zinc, copper, lead, water and melanin, are present.

Among these elements, keratin is a protein-based component essential for hair.

Keratinization, at the basis of the formation of the keratin sheath, is a complex phenomenon regulated by hormones, vitamins in addition to genetic factors.

Hair colour mainly depends on the quantity and
distribution of melanin, an amorphous or granular aggregate consisting of mixtures of polymers and enzymes in a complex protein matrix.

The presence of various micro-elements is also important for hair structure for determining the colour, for example. It has thus been observed that iron is more abundant in red hair whereas magnesium is more abundant in black hair and lead in brown hair. White hair, on the contrary, contains little or no melanin.

As in all cells of the human organism, the complex three-dimensional structure of the proteins present at a hair level plays an important role from both a functional and structural point of view and is therefore fundamental for the aesthetic appearance of hair.

It has been verified that the three-dimensional structure of proteins is determined by the sequence of amino acids which form them and also by their spatial arrangement. The functionality of proteins is also strictly correlated to their three-dimensional structure.

Under adverse environmental conditions, such as exposure to high temperatures, or particular aggressive agents or under general stress conditions, the proteins contained in the cells can be denatured, i.e. lose their original three-dimensional structure. This fact inevitably leads to a loss in their capacity of carrying
out the functions exerted under physiological conditions with the consequent damage or death of the cell.

Denatured hair is therefore thin, opaque and frayed, in particular the continual use of shampoos, dyes having an aggressive action, colouring or lightening products causes an alteration in the protein structure with respect to both the hair and skin or scalp.

When subjected to stress, the keratin structure of hair also remains damaged, causing an anti-aesthetic external effect.

The protection of hair or skin or scalp is obtained by providing a barrier to adverse conditions which can be attributed to a denaturing action of the proteins.

Even if the molecular mechanisms at the basis of this phenomenon are still not completely clear, it is known that protective action is obtained by the accumulation of suitable protective agents in the cell, suitable for maintaining the original form of the proteins.

The above protectors in the form of molecules can be produced directly by the cells themselves or brought inside the cell from the outside environment.

The Applicant has now found that it is possible to obtain a satisfactory answer to the above problems by resorting to the use of an extemporary cosmetic
preparation with a protective, nutritional and restructuring action for hair and skin treatment.

One of the main objectives of the present invention therefore consists in providing an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment which is suitable for treating or preventing the denaturing action of aggressive cosmetic treatment on the keratin structure of hair.

A further objective of the present invention consists in providing an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment which is suitable for improving the external appearance of hair.

These objectives are pursued, according to a first aspect of the invention, by providing an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment according to claim 1 enclosed herewith.

Further characteristics of the present invention are the object of the subsequent claims.

It has been found that by using an extemporary cosmetic preparation with a protective, nutritional and restructuring action for hair treatment comprising a protein carrier, in the form of a liquid or granular
solid with a high protein content, based on proteins of milk and derivatives, associated with a carrying fluid, a protective effect is obtained, which produces particularly appreciable aesthetic results on hair.

According to an embodiment, the cosmetic preparation of the invention has a protein carrier, in the form of a liquid or granular solid with a high protein content, with a protein content based on proteins of mild and/or its derivatives ranging from 15% to 40% by weight, preferably from 20% to 38% by weight and even more preferably said protein carrier, in the form of a liquid or granular solid, has a protein content ranging from 24% to 28% by weight or from 33% to 36% by weight.

According to another aspect of the invention, the protein carrier consists of milk and/or derivatives and/or yoghurt, in liquid or powder form, and in particular whole milk, semi-skimmed or skimmed milk and/or yoghurt.

In particular, according to preferred embodiments of the invention, when the protein carrier, in the form of a liquid or granular solid with a high protein content, is liquid and/or powdered milk, its protein content ranges from 26% to 28% by weight. When it is whole yoghurt, its protein content ranges from 24% to 26% by weight. When it is lean yoghurt, its protein content ranges from 35% to
36% by weight.

In the cosmetic preparation of the invention, at least one cosmetically acceptable carrying fluid is present, suitable for carrying the protein mixture and making it easily applicable and effectively transferred to the hair.

In this respect, according to an aspect of the invention, the carrying fluid comprises:

- fruit extracts (strawberries, blueberries, papaya) for a revitalizing action, as well as a mineralizing and vitaminizing action;
- honey extract for a conditioning, soothing and protective action on the skin and hair, to intensify its sheen;
- rice and/or avocado oil to hydrate the hair making it soft and silky;
- conditioning and hydrating agents, to smooth and conditional skin and hair;
- an antioxidizing complex, to guarantee a better and longer duration of the colour, protect the hair from free radicals and oxidizing effects of the environment;
- vitamin E for an antioxidizing and protective action for hair integrity.

The carrying fluid can also contain other substances having a cosmetic action or excipients, thickening agents
typical of the cosmetic/trichological sector.

The carrying fluid of the invention can conveniently comprise additives commonly used in cosmetic preparations for local use, such as preservatives, bactericide agents, stabilizers, emulsifying agents, buffers, dyes and excipients commonly used in cosmetic preparation techniques.

The carrying fluid according to a preferred embodiment of the invention comprises: water, glycerin, cetyl alcohol, cetrimonium chloride, dimethicone, decyl olate, propylene glycol, cetearyl alcohol, PEG-20 stearate, avocado oil, rice bran oil, dicapryl carbonate, benhenyl alcohol, capric or caprylic glycerides, honey extract, papaya extracts, blueberries, strawberries, sunflower-seed extract, imidazolinidyl urea, tocopheryl acetate, butylene glycol, phenoxyethanol, methylparabene, butylparabene, ethylparabene, propylparabene, isobutylparabene, octyl methoxycinnamate, citric acid, perfume.

The preparation according to the invention is effected by mixing the carrying agent with the protein carrier in a suitable mixer.

The preparation of the invention is effected extemporaneously in fluid form suitable for local application directly on the hair and skin. Typical
embodiments comprise lotions, gels, foams or froths, dyes, and creams.

The extemporary cosmetic preparation for local use of the invention is used by application directly on the hair and skin, typically before or after effecting a denaturing treatment on the hair, preferably after washing.

According to another aspect of the invention, an embodiment method of the cosmetic preparation is provided, which consists in pouring a predefined dose of the carrying fluid into a suitable mixer, adding the protein carrier, in the form of a liquid or granular solid, in a predefined quantity, mixing until a dispersion of the protein carrier in the carrying fluid is obtained.

A predefined dose of carrying fluid ranges from 20 to 100 ml, whereas a predefined quantity of protein carrier ranges from 2 to 40 g.

According to the type of hair and skin to be treated, the extemporary cosmetic composition is obtained:

- for a light treatment by mixing from 2 to 5 g of protein carrier in 40 ml of carrying fluid;
- for a moderate treatment by mixing from 5 to 10 g of protein carrier in 40 ml of carrying fluid;
- for an intense treatment by mixing from 10 to 20 g of protein carrier in 40 ml of carrying fluid;
- for a very intense treatment by mixing from 20 to 40 g of protein carrier in 40 ml of carrying fluid.

According to another aspect of the present invention, a cosmetic hair treatment method is provided by the use of the extemporary cosmetic preparation previously described, which consists in locally applying the preparation according to the invention directly on washed and buffered hair, leaving it to rest for a time ranging from 5 to 10 minutes, combing and rinsing and subsequently effecting styling treatment.
CLAIMS

1. An extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment comprising a protein carrier having a high protein content based on proteins of milk and derivatives, associated with a carrying fluid.

2. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 1, characterized in that said protein carrier has a protein content ranging from 15% to 40% by weight.

3. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 2, characterized in that said protein carrier has a protein content ranging from 20% to 38% by weight.

4. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 3, characterized in that said protein carrier has a protein content ranging from 24% to 28% by weight or from 33% to 36% by weight.

5. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 4, characterized in that said protein carrier consists of milk and/or its
derivatives and/or liquid and/or powdered yoghurts.

6. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 4, characterized in that said protein carrier consists of whole or semi-skimmed or skimmed milk and/or its derivatives and/or liquid and/or powdered yoghurts.

7. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 1, characterized in that said carrying fluid is a cosmetically acceptable fluid based on a mixture of fruit extracts (blueberries, strawberries, papayas), rice and/or avocado oil, conditioning and hydrating agents, an antioxidizing complex, vitamin E and also comprising one or more additives such as preservatives, bactericide agents, stabilizers, emulsifying agents, buffers, dyes and excipients suitable for hair treatment.

8. The extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment according to claim 7, characterized in that the carrying fluid comprises: water, glycerin, cetyl alcohol, cetrimonium chloride, dimethicone, decyl oleate, propylene glycol, cetearyl alcohol, PEG-20 stearate, avocado oil, rice bran oil, dicapryl carbonate, benhenyl
alcohol, capric or caprylyc glycerides, honey extract, papaya extracts, blueberries, strawberries, sunflower-seed extract, imidazolinidyl urea, tocopheryl acetate, butylene glycol, phenoxyethanol, methylparabene, butylparabene, ethylparabene, propylparabene, isobutylparabene, octyl methoxycinnamate, citric acid, perfume.

9. Use of a cosmetic preparation according to any of the claims 1-8 for protecting, nourishing and restructuring the hair and scalp.

10. Use of a cosmetic preparation according to any of the claims 1-8 for improving the external appearance of hair.

11. An embodiment method of an extemporary cosmetic composition with a protective, nutritional and restructuring action for hair treatment comprising a protein carrier with a high protein content based on proteins of milk and its derivatives, associated with a carrying fluid according to any of the claims from 1 to 8, comprising the phases of pouring a predefined dose of the carrying fluid into a suitable mixer, adding the protein carrier in a predefined quantity, mixing until a dispersion of the solid in the carrying fluid is obtained.

12. The method according to claim 11, wherein a
predefined dose of carrying fluid ranges from 20 and 100 ml, whereas a predefined quantity of protein carrier ranges from 2 to 40 g, said doses being predefined in relation to the type of hair and skin to be treated.

13. The method according to claim 12, wherein for a light treatment from 2 to 5 g of protein carrier are mixed in 40 ml of carrying fluid.

14. The method according to claim 12, wherein for a moderate treatment from 5 to 10 g of protein carrier are mixed in 40 ml of carrying fluid.

15. The method according to claim 12, wherein for an intense treatment from 10 to 20 g of protein carrier are mixed in 40 ml of carrying fluid.

16. The method according to claim 12, wherein for a very intense treatment from 20 to 40 g of protein carrier are mixed in 40 ml of carrying fluid.