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(54) Title: SKIN AND HAIR WASH PREPARATION

(57) Abstract: The formulation is homogeneous, has a pH in the range from 6 to 8, and comprises the following (in which all percentages indicated are by weight): at least 50% of at least one fixed oil; at least 15 % of an alkali metal amphoteric acid; at least 5 % of a lauryl betaine; at least 0.1% of a gelling agent; and an emulsifying amount of an organic emulsifying agent; a dermatologically acceptable amount of an organic acid such as citric acid, in an amount to ensure that the pH is in the range indicated above, and, optionally, one or more perfume agents, viscosity modifiers, sensory feel enhancers, and other additives conventionally included in such formulations, the balance being either incidental ingredients or non-deleterious ingredients, typically such that the formulation is in the form of a water-dilutable cream.



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Skin and hair wash preparation

The present invention concerns skin and hair wash preparations such as conditioning shampoos, body, hand and facial washes, and shower gels, and in particular formulations which permit replenishment of the natural oils present in hair and skin.

Many types of formulations for shampoos, body washes and shower gels have been
5 proposed over the years. Shampoo formulations in particular should be easy to rinse, provide a good finish after washing hair, result in minimal skin or eye irritation, or damage to hair, and should have low toxicity.

Over the last few years it has been of increasing concern to provide shampoo and skin wash formulations which consist primarily of natural ingredients, in order to avoid
10 deleterious effects on either the skin or hair of the user, or indeed on the environment, bearing in mind that all skin wash preparations and shampoos ultimately have to enter a watercourse.

Many known shampoo formulations tend, to greater or lesser degrees, to strip hair
15 and scalp of the natural vital oils which are normally to be found in or on healthy hair. Known skin wash formulations can also strip oils and the like from skin, which is of course undesirable.

It is an object of the present invention to provide a skin or hair wash formulation
20 having a high proportion of oils, especially natural oils, such that use of the formulation avoids undesirable stripping of natural oils from hair of a user.

According to the invention, therefore, there is provided a homogeneous skin or hair wash formulation having a pH in the range from 6 to 8, which formulation comprises
25 the following (in which all percentages indicated are by weight):

- at least 50% of at least one fixed oil;
- at least 15 % of an alkali metal amphoteric acetate;
- at least 5 % of a lauryl betaine;
- at least 0.1% of a gelling agent; and
- 30 an emulsifying amount of an organic emulsifying agent;
- a dermatologically acceptable amount of an organic acid such as citric acid, in an amount to ensure that the pH is in the range indicated above, and,
- optionally, one or more perfume agents, viscosity modifiers, sensory feel enhancers, and other additives conventionally included in shampoos or skin wash formulations,

the balance being either incidental ingredients or non-deleterious ingredients, such that the formulation is in the form of a water-dilutable cream.

5 The proportions and percentages indicated above are based on the ingredients other than water (if the latter is present). Water is, of course, an optional non-deleterious ingredient which may be included in the formulation according to the invention in order, for example, to adjust its viscosity.

10 The present invention therefore further comprises a water-diluted composition, which comprises a formulation according to the invention intimately mixed with water (the formulation according to the invention therefore being in the nature of a concentrate). Such a water-diluted composition preferably contains water in an amount of no more than 40% by weight.

15 The fixed oil present in the formulation is typically a lipophilic long chain vegetable oil of edible quality. Such a lipophilic vegetable oil may be saturated or unsaturated (and if unsaturated may be mono-unsaturated or polyunsaturated). Such vegetable oils typically have from 12 to 20 carbon atoms per molecule and may be derived from one or more of nuts, flowers or the like. Examples of suitable such oils include
20 sunflower oil, jojoba oil, almond oil, hazelnut oil and the like. Such oils may be used either alone or in combination with one another.

The oil employed is preferably of certifiable organic quality, such as one meeting the Soil Association certification standard and preferably includes a blend of such
25 vegetable oils. The fixed oil is preferably present in an amount of at least 60% of the formulation.

The alkali metal amphotacetate present in the formulation according to the invention is typically a sodium salt. Examples of suitable amphotacetates which may be
30 employed in the formulation according to the present invention include cocoamphotcarboxy-propionates, cocoamphotglycinates, cocoamphotpropionates, cocoamphotcarboxyglycinates, lauroamphotcarboxypropionates, lauroamphotcarboxyglycinates, lauroamphotcarboxypropionates and lauroamphotglycinates

The emulsifying agent present in the formulation according to the invention is organic (that is, not inorganic) and is further preferably of certifiable organic quality, such as one meeting the Soil Association certification standard. The emulsifying agent may be, for example, cetyl glucoside and/or stearyl glucoside. A preferred such
5 emulsifying agent is cetearyl glucoside (that is, a combination of cetyl and stearyl glucosides). Such an emulsifying agent co-operates with the lauryl betaine present in the formulation in order to ensure a stable formulation which works effectively as a skin or hair wash preparation. Cetearyl glucoside has been found to work effectively at low concentrations (such as no more than 1.5%) and is able to handle base oils at
10 high percentages (such as more than 20%). If other emulsifying agents such as sucrose stearate or cetearyl alcohol are used, they may need to be added in considerably larger amounts to handle large proportions of oils.

The lauryl betaine present in the formulation according to the invention is preferably
15 present in an amount of up to 15% by weight (more preferably up to 10%); it is present in an amount such that the skin or hair wash preparation is a white cream in the absence of colouring agents. If attempts are made to use too little of the lauryl betaine, then the formulation may be disadvantageously yellow in colour. If other apparently similar betaines, such as cetyl betaine or cocoamidopropyl betaine, are
20 tried instead of lauryl betaine, then a cream-like product is not formed. Rather, a disadvantageous thin yellow liquid is formed.

The gelling agent present in the formulation according to the invention is typically a natural gum, such as xanthan gum or the like. Such a gelling agent is preferably
25 present in an amount not exceeding 2%.

An optional further ingredient present in the formulation according to the invention is glycerine, typically present in an amount of up to 5% of the skin or hair wash formulation.

30

Other optional ingredients, such as aloe vera powder, calendula tincture or the like, which are not essential for the basic function of a skin or hair wash formulation may be included. Such ingredients may, however, give an enhanced sensory effect (such as enhanced perfume or skin feel) or enhance the perceived 'goodness' of the
35 formulation.

When it is desirable to adjust the pH of the formulation to lower pH values, a food grade acid such as citric acid may be used. Other non-deleterious additives may also be included in the formulation according to the invention.

- 5 In some embodiments of the invention, all the ingredients in the hair or skin wash formulation may be of food-grade quality. It is further particularly preferred that all ingredients should be of certifiably organic quality.

10 The skin or hair wash formulation according to the invention is generally stable both physically and microbially; and is generally free of undesirable physical attributes such as harshness and oiliness.

The following Examples of formulations according to the invention are given by way of illustration only. In the Examples, all percentages are by weight.

15

Example 1

A shampoo formulation was made with the following proportions:

69.4% of organic jojoba oil;

18 % of a sodium amphotacetate;

20 5 % of a lauryl betaine;

0.1% of an organic (that is, of organic quality) xanthan gum gelling agent;

1.5% cetearyl glucoside;

2% citric acid; and

4% glycerine.

25

A quantity of the exemplified shampoo formulation, which had a pH of about 7, was used to wash 50 heads in a professional salon and compared against a leading commercially available baby shampoo (Johnson and Johnson).

30 Use of the exemplified formulation produced a rich creamy lather. It was slower to lather up than the comparative shampoo and had less volume, but it was noticeably creamier and rinsed out easily.

After rinsing and towel drying, the shampoo formulation according to the invention left the hair feeling cleaner than the comparative shampoo, but was equally easy to comb. Tangle removal was moderately easy. Neither of the shampoos was considered to give much conditioning to wet hair.

- 5 After drying and styling the hair, there were no significant differences between the two shampoos and both products left the hair feeling clean and in good condition although flyway was not completely eliminated.

Example 2

- 10 The following ingredients were combined:
63.4% of sunflower oil;
2.2% of jojoba oil;
15.6 % of a sodium cocoamphoacetate;
7.2% of a lauryl betaine;
- 15 0.4% of an organic xanthan gum gelling agent;
2.2% cetearyl olivate/sorbitan olivate;
2.2% cetearyl glucoside;
2.2% corn (Zea mays) starch;
1.1% calendula tincture;
- 20 1.1% glycerine; and
approx 2.5% of a mix of natural oils, including olibanum, mandarin, bergamot and aloe vera.

- The resulting creamy mix was diluted with water, such that the amount of water is
- 25 10.7% of the resulting formulation; the diluted formulation had a cream consistency such that it was suitable as a shower cream. Tests of the resulting shower cream (which had a pH of about 7.4) showed that it gave the skin a smooth feel with little or no perceptible stripping of skin oils.

Example 3

The following ingredients were combined

- 67.5% of sunflower oil;
 - 2.3% of jojoba oil;
 - 5 17.1 % of a sodium cocoamphoacetate;
 - 7.4% of a lauryl betaine;
 - 1.1% cetearyl glucoside;
 - 1.1% calendula tincture;
 - 1.1% glycerine;
 - 10 0.2% xanthan gum;
 - 0.3% citric acid; and
 - approx 2% of a mix of natural oils, including ylang ylang, mandarin, neroli and aloe vera.
- 15 The resulting creamy mix was diluted with water such that the amount of water in the formulation was 12.5%. The resulting diluted formulation, which had a pH of about 7.5, had a consistency such that it was suitable as a facial wash.
- 20 Tests of the resulting facial wash showed that it gave the skin a smooth feel with little or no perceptible stripping of skin oils.

Claims

1. A homogeneous skin or hair wash formulation having a pH in the range from 6 to 8, which comprises the following ingredients (in which all percentages indicated are by weight):
 - 5 at least 50% of at least one fixed oil;
 - at least 15 % of an alkali metal amphoteric salt;
 - at least 5 % of a lauryl betaine;
 - at least 0.1% of a gelling agent; and
 - an emulsifying amount of an organic emulsifying agent;
 - 10 a dermatologically acceptable amount of an organic acid, in an amount to ensure that the pH is in said range, and,
 - optionally, one or more shampoo additives or skin wash additives of known type, the balance being either incidental ingredients or non-deleterious ingredients, such that the formulation is in the form of a water-dilutable cream.
- 15 2 A formulation according to claim 1, in which the fixed oil is a lipophilic long chain vegetable oil of edible quality.
- 3 A formulation according to claim 2, wherein said oil has 12 to 20 carbon
20 atoms per molecule.
- 4 A formulation according to claim 1, wherein the oil is sunflower oil, jojoba oil, almond oil or hazelnut oil.
- 25 5 A formulation according to any of claims 1 to 4, wherein the alkali metal amphoteric salt is a sodium salt.
- 6 A formulation according to any of claims 1 to 5, wherein the emulsifying
30 agent is cetyl glucoside and/or stearyl glucoside.
- 7 A formulation according to any of claims 1 to 6, in which all the ingredients are of food-grade quality.
- 8 A formulation according to any of claims 1 to 7, further containing glycerine.

- 9 A water-diluted composition, which comprises a formulation according to any of claims 1 to 8 which has been diluted with water.
- 10 A water-diluted composition according to claim 9, which contains up to 40% of water.
- 5