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(54) Title: COMPOSITION COMPRISING OIL, WATER-SOLUBLE ALCOHOL, AND NONIONIC GUAR GUM

(57) Abstract: The present invention relates to a composition comprising: (a) at least one hydrophilic active agent, (b) at least one water-soluble alcohol in an amount of 40% by weight or more relative to the total weight of the composition, (c) at least one oil, (d) at least one nonionic guar gum, and (e) water in an amount of 35% by weight or less relative to the total weight of the composition.



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DESCRIPTION

COMPOSITION COMPRISING OIL, WATER-SOLUBLE ALCOHOL, AND NONIONIC
GUAR GUM

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TECHNICAL FIELD

10 The present invention relates to a composition comprising an oil, a water-soluble alcohol, and nonionic guar, in particular a cosmetic composition for keratinous substances, comprising the same.

BACKGROUND ART

15 In the cosmetics field, cosmetic compositions that make it possible to obtain care effects are increasingly sought after by users. In order to obtain care effects, active agents are generally included in the compositions. In cosmetic compositions including cosmetic active agents for keratinous substances, an oil can be used as a medium in the formulation in order to achieve a good penetration property of the active agents into keratinous substances.

20 For example, JP-T-2020-514263 discloses a cosmetic composition comprising from 30% to 89% by weight of at least one polar oil relative to the total weight of the composition, from 10% to 45% by weight of at least one C₂-C₆ aliphatic monoalcohol relative to the total weight of the composition, and from 0.5% to 50% by weight of at least one polyol relative to the total weight of the composition, and at least one hydrophilic active agent, said composition comprising less than
25 7% by weight of water relative to the total weight of the composition.

30 However, there is a problem in cosmetic compositions comprising an oil and a water-soluble alcohol in that such compositions may cause greasy feelings during application. Therefore, there is still demand for cosmetic compositions comprising an oil and a water-soluble alcohol, which are more stable and can impart a good texture.

DISCLOSURE OF INVENTION

35 An objective of the present invention is to provide a stable composition comprising an oil and an alcohol, which can provide an improved sensation to keratinous materials, such as skin, scalp, and hair.

The above objective of the present invention can be achieved by a cosmetic composition, comprising:

- 40 (a) at least one hydrophilic active agent,
(b) at least one water-soluble alcohol in an amount of 40% by weight or more relative to the total weight of the composition,
(c) at least one oil,
(d) at least one nonionic guar gum, and
45 (e) water in an amount of 30% by weight or less relative to the total weight of the composition.

The (d) at least one nonionic guar gum may be hydroxyalkyl guar gum, preferably hydroxyalkyl guar gum having C₁ to C₆ hydroxyalkyl groups, more preferably hydroxypropyl guar gum or hydroxyethyl guar gum, and in particular hydroxypropyl guar gum.

The (d) at least one nonionic guar gum may have a degree of substitution of more than 0.6, preferably 0.7 or more, more preferably 0.8 or more, even more preferably 0.9 or more, preferentially 1.0 or more, and in particular 1.1 or more.

5

The (b) at least one water-soluble alcohol may comprise at least one monoalcohol, at least one diol, and at least one triol in combination.

10 The (b) at least one water-soluble alcohol may be present in the composition in an amount ranging from 50% to 95% by weight, preferably from 60% to 90% by weight, more preferably from 65% to 85% by weight, and even more preferably from 70% to 80% by weight, relative to the total weight of the composition.

15

The (c) at least one oil may be chosen from ester oils, fatty alcohols, and combinations thereof.

The amount of the (c) at least one oil may range from 0.5% to 30% by weight, preferably 1% to 20% by weight, more preferably from 2% to 15% by weight, and even more preferably from 4% to 10% by weight, relative to the total weight of the composition.

20 The (a) at least one hydrophilic active agent may be selected from moisturizers; depigmenting agents; desquamating agents; anti-ageing agents; mattifying agents; cicatrizing agents; blood-circulation promoting ingredient; antibacterial agents; and mixtures thereof.

25 The amount of the (a) at least one hydrophilic active agent may range from 0.1% to 20% by weight, preferably from 0.5% to 15% by weight, more preferably from 1% to 12% by weight, even more preferably from 2% to 10% by weight or more, and in particular from 3% to 10% by weight, relative to the total weight of the composition.

30 The amount of the (e) water may be from 0.1% to 25% by weight, preferably from 1% to 20% by weight, more preferably from 3% to 15% by weight, and even more preferably from 5% to 10% by weight, relative to the total weight of the composition.

35 In one embodiment of the composition according to present invention, it is in the form of a homogeneous solution.

It is preferred that the composition according to present invention be a leave-on type cosmetic composition.

40 The (b) at least one water-soluble alcohol may comprise at least one diol, and the amount of the at least one diol may range from 1% to 25% by weight, preferably from 2% to 20% by weight, more preferably from 3% to 15% by weight, and even more preferably from 5% to 10% by weight, relative to the total weight of the composition.

45 The present invention also relates to a cosmetic process for caring for and/or conditioning a keratin material, such as skin, scalp and/or hair, comprising applying to the keratin material the composition according to the present invention.

50 The cosmetic process may not include a rinse out or wash out step of the applied composition within one hour, preferably within 2 hours, more preferably within 4 hours, and even more preferably within 8 hours after applying the composition.

BEST MODE FOR CARRYING OUT THE INVENTION

After diligent research, the inventors have surprisingly discovered that the use of a specific nonionic guar gum can provide a composition comprising at least one hydrophilic active agent and specific amounts of at least one water-soluble alcohol, at least one oil, and water with improved stability while refraining greasy feelings during application, and thus completed the present invention.

Thus, the present invention relates to a cosmetic composition, comprising:
 (a) at least one hydrophilic active agent,
 (b) at least one water-soluble alcohol in an amount of 40% by weight or more relative to the total weight of the composition,
 (c) at least one oil,
 (d) at least one nonionic guar gum, and
 (e) water in an amount of 30% by weight or less relative to the total weight of the composition.

Hereinafter, the cosmetic composition and cosmetic process according to the present invention will be explained in a more detailed manner.

[Composition]

The composition according to the present invention includes (a) at least one hydrophilic active agent, (b) at least one water-soluble alcohol, (c) at least one oil, (d) at least one nonionic guar gum, and (e) water. The ingredients in the composition will be described in a detailed manner below.

(Hydrophilic Active Agent)

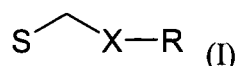
The composition according to the present invention comprises (a) at least one hydrophilic active agent. Two or more hydrophilic active agents may be used in combination. Thus, a single type of hydrophilic active agent or a combination of different types of hydrophilic active agents may be used.

“Hydrophilic active agent” is intended to mean here an active agent for skin and/or scalp, which is soluble in water at a concentration of at least 1% by weight relative to the total weight of the water at room temperature (25°C) and atmosphere pressure (10⁵ Pa).

As hydrophilic active agents, mention may be made, for example, of moisturizers; depigmenting agents; desquamating agents; anti-ageing agents; mattifying agents; cicatrizing agents; blood-circulation promoting ingredient; antibacterial agents; and mixtures thereof.

Preferably, the said hydrophilic active agent is chosen from C-glycosides, salicylic acid, salicylic acid derivatives and mixtures thereof.

In a first embodiment, the composition according to the invention may comprise at least one hydrophilic active agent chosen from C-glycosides of the following general formula (I):



in which:

- R denotes an unsubstituted linear C₁-C₄ and especially C₁-C₂ alkyl radical, in particular

methyl;

- S represents a monosaccharide chosen from D-glucose, D-xylose, N-acetyl-D-glucosamine and L-fucose, and in particular D-xylose;
 - X represents a group chosen from -CO-, -CH(OH)- and -CH(NH₂)- and preferentially a -CH(OH)- group;
- 5 and also the cosmetically acceptable salts thereof, solvates thereof such as hydrates, and optical isomers thereof.

As non-limiting illustrations of C-glycoside derivatives of formula (I) that are more particularly suitable for the invention, mention may especially be made of the following compounds:

- C-beta-D-xylopyranoside-n-propan-2-one;
- C-alpha-D-xylopyranoside-n-propan-2-one;
- C-beta-D-xylopyranoside-2-hydroxypropane;
- C-alpha-D-xylopyranoside-2-hydroxypropane;
- 15 - 1-(C-beta-D-glucopyranosyl)-2-hydroxypropane;
- 1-(C-alpha-D-glucopyranosyl)-2-hydroxypropane;
- 1-(C-beta-D-glucopyranosyl)-2-aminopropane;
- 1-(C-alpha-D-glucopyranosyl)-2-aminopropane;
- 3'-(acetamido-C-beta-D-glucopyranosyl)propan-2'-one;
- 20 - 3'-(acetamido-C-alpha-D-glucopyranosyl)propan-2'-one;
- 1-(acetamido-C-beta-D-glucopyranosyl)-2-hydroxypropane;
- 1-(acetamido-C-beta-D-glucopyranosyl)-2-aminopropane;
- and also the cosmetically acceptable salts thereof, solvates thereof such as hydrates, and optical isomers thereof.

25 According to a particular embodiment, use is made of C-beta-D-xylopyranoside-2-hydroxypropane or C-alpha-D-xylopyranoside-2-hydroxypropane, and better still C-beta-D-xylopyranoside-2-hydroxypropane.

30 According to a particular embodiment, a C-glycoside of formula (I) that is suitable for the invention may advantageously be C-beta-D-xylopyranoside-2-hydroxypropane, the INCI name of which is HYDROXYPROPYL TETRAHYDROPYR ANTRIOL, sold especially under the name MEXORYL SBB® or MEXORYL SCN® by NOVEAL. The salts of the C-glycosides of formula (I) that are suitable for the invention may comprise conventional physiologically acceptable salts of these compounds, such as those formed from organic or inorganic acids.

35 Examples that may be mentioned include the salts of mineral acids, such as sulfuric acid, hydrochloric acid, hydrobromic acid, hydriodic acid, phosphoric acid and boric acid. Mention may also be made of the salts of organic acids, which may comprise one or more carboxylic, sulfonic or phosphonic acid groups. They may be linear, branched or cyclic aliphatic acids, or alternatively aromatic acids. These acids may also comprise one or more heteroatoms chosen from O and N, for example in the form of hydroxyl groups. Mention may especially be made of propionic acid, acetic acid, terephthalic acid, citric acid and tartaric acid.

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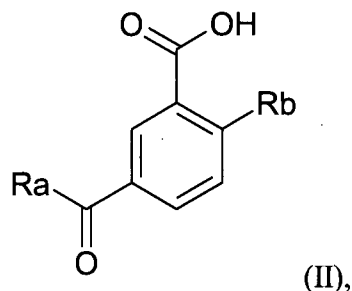
The solvates that are acceptable for the compounds described above comprise conventional solvates such as those formed during the final step of preparation of said compounds due to the presence of solvents. Examples that may be mentioned include solvates due to the presence of water or of linear or branched alcohols, such as ethanol or isopropanol.

45

The C-glycosides (I) are also known from the document WO 02/051828.

50

In another particular embodiment, the composition according to the invention may comprise at least one hydrophilic active agent chosen from salicylic acid and salicylic acid derivatives, in particular of formula (II) below:



5 in which:

- the radical Ra denotes:
 - a linear, branched or cyclic, saturated aliphatic chain containing from 2 to 22 carbon atoms;
 - an unsaturated chain containing from 2 to 22 carbon atoms, containing one or more double bonds which may be conjugated;
 - 10 - an aromatic nucleus bonded to the carbonyl radical directly or by means of saturated or unsaturated aliphatic chains containing from 2 to 7 carbon atoms;
 it being possible for said groups to be substituted with one or more identical or different substituents chosen from:
 - (a) halogen atoms,
 - 15 (b) the trifluoromethyl group,
 - (c) hydroxyl groups in free form or in a form esterified with an acid containing from 1 to 6 carbon atoms, or
 - (d) a carboxyl function in free form or in a form esterified with a lower alcohol containing from 1 to 6 carbon atoms;
 - Rb is a hydroxyl group;
- and also salts thereof derived from an inorganic or organic base.

According to one embodiment, the radical Ra denotes:

- a linear, branched or cyclic, saturated aliphatic chain containing from 3 to 11 carbon atoms; or
 - 25 - an unsaturated chain containing from 3 to 17 carbon atoms and comprising one or more conjugated or non-conjugated double bonds;
- it being possible for said hydrocarbon-based chains to be substituted with one or more identical or different substituents chosen from:
- (a) halogen atoms;
 - 30 (b) the trifluoromethyl group;
 - (c) hydroxyl groups in free form or in a form esterified with an acid containing from 1 to 6 carbon atoms; or
 - (d) a carboxyl function in free form or in a form esterified with a lower alcohol containing from 1 to 6 carbon atoms;
- 35 and also salts thereof obtained by salification with an inorganic or organic base. The compounds that are more particularly preferred are those in which the radical Ra is a C₃-C₁₁ alkyl group.

Among the compounds of formula (II) that are particularly preferred, mention may be made of:

- 5-n-octanoylsalicylic acid (or capryloylsalicylic acid); 5-n-decanoylsalicylic acid;
 - 40 5-n-dodecanoylsalicylic acid; 5-n-heptyloxysalicylic acid, and the corresponding salts thereof.
- The salicylic acid compound is advantageously chosen from salicylic acid and 5-n-octanoylsalicylic acid. 5-n-Octanoylsalicylic acid will more particularly be used. 5-n-Octanoylsalicylic acid (or capryloylsalicylic acid) is provided under the name Mexoryl

SAB® by the company Chimex.

5 Examples of inorganic bases that may be mentioned include alkali metal or alkaline-earth metal hydroxides, for instance, sodium hydroxide, potassium hydroxide or aqueous ammonia. Among the organic bases that may be mentioned are amines and alkanolamines. Quaternary salts, for instance, those described in patent FR 2 607 498, are particularly advantageous. The compounds of formula (II) that may be used according to the invention are described in patents US 6 159 479, US 5 558 871, FR 2 581 542, FR 2 607 498, US 4 767 750, EP 378 936, US 5 267 407, US 5 667 789, US 5 580 549 and EP A-570 230.

10 As another hydrophilic active agent, mention can be made of blood-circulation promoting ingredients, such as D α -tocopherol acetate, tocopherol nicotinate, glucosyl hesperidin, hesperidin, caffeine, γ -oryzanol, capsaicin, nicotinic acid benzyl ester, and the like.

15 As another hydrophilic active agent, mention can be made of amino acid or its derivative, such as betain(trimethylglycine), proline, hydroxyproline, arginine, lysine, serine, glycine, alanine, phenylalanine, β -alanine, threonine, glutamic acid, glutamine, aspartic acid, cysteine, cystine, methionine, leucine, isoleucine, valine, histidine, threonine, tyrosine, taurine, γ -aminobutyric acid, γ -amino- β -hydroxybutyric acid, carnitine, carnosine, creatine, epsilon aminocaproic acid, tryptophan, and the like.

20 As another hydrophilic active agent, mention can be made of water-soluble polysaccharides, such as gums, for example, gellan gum, xanthan gum, sclerodium gum, locust bean gum, biosaccharide gum, tamarind gum, quince seed, arabic gum, carrageenan, tara gum, guar gum, galactan, arabic gum, acacia gum, tragacanth gum, curdram, succinoglucan, etc.; carrageenan; heparin-like substances; alginic acids, and the like.

25 The hydrophilic active agent(s) may be present in the composition according to the present invention in an amount of 0.1% by weight or more, preferably 0.5% by weight or more, more preferably 1% by weight or more, even more preferably 2% by weight or more, and in particular 3% by weight or more by weight, relative to the total weight of the composition.

30 The hydrophilic active agent(s) may be present in the composition according to the present invention in an amount of 20% by weight or less, preferably 15% by weight or less, more preferably 12% by weight or less, and even more preferably 10% by weight or more, relative to the total weight of the composition.

35 The hydrophilic active agent(s) may be present in the composition according to the present invention in an amount ranging from 0.1% to 20% by weight or more, from 0.5% to 15% by weight more preferably from 1% to 12% by weight, even more preferably from 2% to 10% by weight or more, and in particular from 3% to 10% by weight, relative to the total weight of the composition.

40 (Water-Soluble Alcohol)

45 The composition according to the present invention comprises (b) at least one water-soluble alcohol. Two or more water-soluble alcohols may be used in combination. Thus, a single type of water-soluble alcohol or a combination of different types of water-soluble alcohols may be used.

The term "water-soluble alcohol" here means an alcohol which can dissolve in an amount of 0.1 g or more, 0.5 g or more, or 1 g or more in 100 mL water at room temperature (25 °C) and atmosphere pressure (10⁵ Pa).

- 5 The water-soluble alcohol of the present invention may be selected from monoalcohol and polyol. In some embodiments of the present invention, the water-soluble alcohol comprises at least one monoalcohol and at least one polyol in combination.

Monoalcohol

10

The monoalcohol may be linear or branched, saturated or unsaturated mono-alcohols having from 1 to 8 carbon atoms, preferably from 2 to 8 carbon atoms, bearing only one hydroxyl (OH) function.

15

In one embodiment, the monoalcohol may be aliphatic monoalcohol having from 1 to 8 carbon atoms, preferably from 2 to 8 carbon atoms.

The term "aliphatic monoalcohol" here means any linear or branched, saturated alkane compound bearing only one hydroxyl (OH) function.

20

The aliphatic monoalcohol(s) present in the compositions of the invention may be chosen from ethanol, propanol, butanol, isopropanol, isobutanol and mixtures thereof.

25

In one preferred embodiment of the present invention, the monoalcohol can be selected from linear aliphatic monoalcohol having from 1 to 8 carbon atoms, preferably from 2 to 8 carbon atoms, such as ethanol, propanol, butanol, and mixtures thereof.

Polyol

30

For the purposes of the present invention, the term "polyol" should be understood as meaning any organic molecule comprising at least two free hydroxyl groups.

The polyol that is suitable for use in the invention may be a compound of linear, branched or cyclic, saturated or unsaturated alkyl type, bearing at least two -OH functions on the alkyl chain.

35

Preferably, a polyol that may be used in the composition according to the invention is a compound of linear or branched, preferably linear alkyl type bearing at least two -OH functions, preferably 2 to 5 -OH functions, more preferably 2 to 4 -OH functions, and even more preferably 2 or 3 -OH functions on the alkyl chain.

40

The polyols that are advantageously suitable for formulating the cosmetic compositions according to the present invention are those especially having from 2 to 8 carbon atoms or for example 3 to 6 carbon atoms.

45

The polyols that may be used according to the present invention are chosen from linear or branched, preferably linear polyols having from 3 to 8 carbon atoms; mention may be made especially of:

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- diols such as hexylene glycol, dipropylene glycol, pentylene glycol, propylene glycol and butylene glycol; and
- triols, such as glycerol (glycerin),

and mixtures thereof.

In one preferred embodiment of the present invention, the polyol comprises at least one diol and at least one polyol having three or more -OH functions, in particular triol, in combination.

5

The composition according to the present invention comprises the water-soluble alcohol(s) in an amount of 40% by weight or more relative to the total weight of the composition.

10 The water-soluble alcohol(s) may be present in the composition according to the present invention in an amount of 50% by weight or more, preferably 60% by weight or more, more preferably 65% by weight or more, and even more preferably 70% by weight or more, relative to the total weight of the composition.

15 The water-soluble alcohol(s) may be present in the composition according to the present invention in an amount of 95% by weight or less, preferably 90% by weight or less, more preferably 85% by weight or less, and even more preferably 80% by weight or more, relative to the total weight of the composition.

20 The water-soluble alcohol(s) may be present in the composition according to the present invention in an amount ranging from 50% to 95% by weight, preferably from 60% to 90% by weight, more preferably from 65% to 85% by weight, and even more preferably from 70% to 80% by weight, relative to the total weight of the composition.

25 In one embodiment of the present invention, the monoalcohol may be present in an amount of 40% by weight or more, preferably 50% by weight or more, more preferably 60% by weight or more, and even more preferably 65% by weight or more; and may be 90% by weight or less, preferably 85% by weight or less, more preferably 80% by weight or less, and even more preferably 75% by weight or more, relative to the total weight of the composition.

30 In another embodiment of the present invention, the polyol may be present in an amount of 1% by weight or more, preferably 3% by weight or more, more preferably 5% by weight or more, and even more preferably 7% by weight or more; and may be 25% by weight or less, preferably 20% by weight or less, more preferably 15% by weight or less, and even more preferably 12% by weight or more, relative to the total weight of the composition.

35

In a specific embodiment of the present invention, the composition comprises both of the monoalcohol and the polyol, preferably a combination of the monoalcohol in an amount ranging from 40% to 90% by weight and the polyol in an amount ranging from 1% to 25% by weight, more preferably a combination of the monoalcohol in an amount ranging from 50% to 85% by weight and the polyol in an amount ranging from 3% to 20% by weight, even more preferably a combination of the monoalcohol in an amount ranging from 60% to 80% by weight and the polyol in an amount ranging from 5% to 15% by weight, and in particular a combination of the monoalcohol in an amount ranging from 65% to 75% by weight and the polyol in an amount ranging from 7% to 12% by weight, relative to the total weight of the composition.

45

In a further specific embodiment of the present invention, the water-soluble alcohol comprises at least one diol, and the diol may be present in an amount of 1% by weight or more, preferably 2% by weight or more, more preferably 3% by weight or more, and even more preferably 5% by weight or more; and may be 25% by weight or less, preferably 20% by weight or less, more preferably 15% by weight or less, and even more preferably 10% by weight or more, relative to

50

the total weight of the composition.

In another embodiment of the present invention, the water-soluble alcohol comprises at least one polyol having three or more hydroxyl groups, in particular triol, and the polyol having three or more hydroxyl groups may be present in an amount of 0.2% by weight or more, preferably 0.5% by weight or more, more preferably 1% by weight or more, and even more preferably 1.2% by weight or more; and may be 10% by weight or less, preferably 8% by weight or less, more preferably 5% by weight or less, and even more preferably 3% by weight or more, relative to the total weight of the composition.

In another preferred embodiment of the present invention, the composition comprises a combination of at least one monoalcohol, at least one diol, and at least one triol. In this embodiment, the composition according to the present invention comprises the monoalcohol in an amount ranging from 40% to 90% by weight, the diol in an amount range from 1% to 25% by weight, and the triol in an amount ranging from 0.2% to 10% by weight; more preferably the monoalcohol in an amount ranging from 50% to 85% by weight, the diol in an amount ranging from 2% to 20% by weight, and the triol in an amount ranging from 0.5% to 8% by weight; even more preferably the monoalcohol in an amount ranging from 60% to 80% by weight, the diol in an amount ranging from 3% to 15% by weight, and the triol in an amount ranging from 1% to 5% by weight; and in particular the monoalcohol in an amount ranging from 65% to 75% by weight, the diol in an amount ranging from 5% to 10% by weight, and the triol in an amount ranging from 1.2% to 3% by weight, relative to the total weight of the composition.

(Oil)

The composition according to the present invention comprises (c) at least one oil. Two or more types of oils may be used in combination. Thus, a single type of oil or a combination of different types of oils may be used.

Here, "oil" means a fatty compound or substance which is in the form of a liquid or a paste (non-solid) at room temperature (25 °C) under atmospheric pressure (760 mmHg). As the oils, those generally used in cosmetics can be used alone or in combination thereof. These oils may be volatile or non-volatile.

Among the oils which may be used in the present invention, mention may be made of: volatile or non-volatile oils; these oils may be hydrocarbon-based oils, especially of animal or plant origin, synthetic oils, silicone oils, fluoro oils, or mixtures thereof.

For the purposes of the present invention, "hydrocarbon-based oil" or "hydrocarbon oil" is intended to mean an oil mainly containing hydrogen and carbon atoms and optionally oxygen, nitrogen, sulfur and/or phosphorus atoms. The hydrocarbon-based oil does not comprise any silicon atoms.

For the purposes of the present invention, "silicone oil" is intended to mean an oil comprising at least one silicon atom, and especially at least one Si-O group.

For the purposes of the present invention, "polar oil" is intended to mean an oil of which the solubility parameter δ_a at 25°C is other than 0 (J/cm³)^{1/2}.

In particular, "polar oil" is intended to mean an oil of which the chemical structure is formed

essentially from, or even constituted of, carbon and hydrogen atoms, and comprising at least one highly electronegative heteroatom such as an oxygen, nitrogen, silicon or phosphorus atom.

5 The definition and calculation of the solubility parameters in the Hansen three-dimensional solubility space are described in the article by C.M. Hansen: *The three-dimensional solubility parameters*, J. Paint Technol., 39, 105 (1967).

According to this Hansen space:

- 10 - δ_D characterizes the London dispersion forces resulting from the formation of dipoles induced during molecular impacts;
- δ_p characterizes the Debye interaction forces between permanent dipoles and also the Keesom interaction forces between induced dipoles and permanent dipoles;
- δ_h characterizes the forces of specific interactions (such as hydrogen bonds, acid/base bonds, donor/acceptor bonds, and the like);
- 15 - δ_a is determined by the equation: $\delta_a = (\delta_p^2 + \delta_h^2)^{1/2}$.

The parameters δ_p , δ_h , δ_D and δ_a are expressed as $(J/cm^3)^{1/2}$.

20 Preferably, the polar oils used according to the present invention have a δ_a of between 4 and 9.1, preferably a δ_a of between 6 and 9.1, even better still between 7.3 and 9.1.

The oil may be a non-polar oil such as a hydrocarbon oil, a silicone oil, or the like; a polar oil such as a plant or animal oil and an ester oil or an ether oil; or a mixture thereof.

25 The oil may be selected from the group consisting of oils of plant or animal origin, synthetic oils, silicone oils, hydrocarbon oils, and fatty alcohols.

30 As examples of plant oils, mention may be made of, for example, linseed oil, camellia oil, macadamia nut oil, corn oil, mink oil, olive oil, avocado oil, sasanqua oil, castor oil, safflower oil, jojoba oil, sunflower oil, almond oil, rapeseed oil, sesame oil, soybean oil, peanut oil, and mixtures thereof.

As examples of animal oils, mention may be made of, for example, squalene and squalane.

35 As examples of synthetic oils, mention may be made of alkane oils such as isododecane and isohexadecane, ester oils, ether oils, and artificial triglycerides.

40 The ester oils are preferably liquid esters of saturated or unsaturated, linear or branched C_1 - C_{26} aliphatic monoacids or polyacids and of saturated or unsaturated, linear or branched C_1 - C_{26} aliphatic monoalcohols or polyalcohols, the total number of carbon atoms of the esters being greater than or equal to 10.

45 Preferably, for the esters of monoalcohols, at least one from among the alcohol and the acid from which the esters of the present invention are derived is branched.

50 The ester oils of the monoesters of monoacids and of monoalcohols may be represented by formula R_1COOR_2 in which R_1 represents the residue of a linear or branched, preferably a linear fatty acid comprising from 1 to 40 carbon atoms, preferably 6 to 24 carbon atoms, and more preferably 10 to 20 carbon atoms, and R_2 represents a hydrocarbon-based chain, especially branched, containing from 1 to 40 carbon atoms, preferably 1 to 12 carbon atoms, and more

preferable 2 to 8 carbon atoms, with the proviso that $R_1 + R_2$ is ≥ 10 .

Among the monoesters of monoacids and of monoalcohols, mention may be made of ethyl palmitate, ethyl hexyl palmitate, isopropyl palmitate, dicaprylyl carbonate, alkyl myristates such as isopropyl myristate or ethyl myristate, isocetyl stearate, 2-ethylhexyl isononanoate, isononyl isononanoate, isodecyl neopentanoate, and isostearyl neopentanoate.

It is preferred that the ester oil is selected from fatty acid ester oils.

10 Esters of C_4 - C_{22} dicarboxylic or tricarboxylic acids and of C_1 - C_{22} alcohols, and esters of monocarboxylic, dicarboxylic, or tricarboxylic acids and of non-sugar C_4 - C_{26} dihydroxy, trihydroxy, tetrahydroxy, or pentahydroxy alcohols may also be used.

15 Mention may especially be made of: diethyl sebacate; diisopropyl sebacate; bis(2-ethylhexyl) sebacate; diisopropyl adipate; di-n-propyl adipate; dioctyl adipate; bis(2-ethylhexyl) adipate; diisostearyl adipate; bis(2-ethylhexyl) maleate; triisopropyl citrate; triisocetyl citrate; triisostearyl citrate; glyceryl trilactate; glyceryl trioctanoate; trioctylododecyl citrate; trioleyl citrate; neopentyl glycol diheptanoate; diethylene glycol diisononanoate.

20 As ester oils, one can use sugar esters and diesters of C_6 - C_{30} and preferably C_{12} - C_{22} fatty acids. It is recalled that the term "sugar" means oxygen-bearing hydrocarbon-based compounds containing several alcohol functions, with or without aldehyde or ketone functions, and which comprise at least 4 carbon atoms. These sugars may be monosaccharides, oligosaccharides, or polysaccharides.

25 Examples of suitable sugars that may be mentioned include sucrose (or saccharose), glucose, galactose, ribose, fucose, maltose, fructose, mannose, arabinose, xylose, and lactose, and derivatives thereof, especially alkyl derivatives, such as methyl derivatives, for instance, methylglucose.

30 The sugar esters of fatty acids may be chosen especially from the group comprising the esters or mixtures of esters of sugars described previously and of linear or branched, saturated or unsaturated C_6 - C_{30} and preferably C_{12} - C_{22} fatty acids. If they are unsaturated, these compounds may have one to three conjugated or non-conjugated carbon-carbon double bonds.

35 The esters according to this variant may also be selected from monoesters, diesters, triesters, tetraesters, and polyesters, and mixtures thereof.

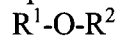
40 These esters may be, for example, oleates, laurates, palmitates, myristates, behenates, cocoates, stearates, linoleates, linolenates, caprates, and arachidonates, or mixtures thereof such as, especially, oleopalmitate, oleostearate, and palmitostearate mixed esters, as well as pentaerythrityl tetraethyl hexanoate.

45 More particularly, use is made of monoesters and diesters and especially sucrose, glucose, or methylglucose monooleates or dioleates, stearates, behenates, oleopalmitates, linoleates, linolenates, and oleostearates.

50 An example that may be mentioned is the product sold under the name Glucate® DO by the company Amerchol, which is a methylglucose dioleate.

As examples of preferable ester oils, mention may be made of, for example, diisopropyl adipate, dioctyl adipate, 2-ethylhexyl hexanoate, ethyl laurate, cetyl octanoate, octyldodecyl octanoate, isodecyl neopentanoate, myristyl propionate, 2-ethylhexyl 2-ethylhexanoate, 2-ethylhexyl octanoate, 2-ethylhexyl caprylate/caprinate, methyl palmitate, ethyl palmitate, isopropyl palmitate, dicaprylyl carbonate, isononyl isononanoate, ethylhexyl palmitate, isohexyl laurate, hexyl laurate, isocetyl stearate, isopropyl isostearate, isopropyl myristate, isodecyl oleate, glyceryl tri(2-ethylhexanoate), pentaerythrithyl tetra(2-ethylhexanoate), 2-ethylhexyl succinate, diethyl sebacate, and mixtures thereof.

10 As the ether oil, dialkyl ethers such as those represented by the following formula:



wherein

each of R^1 and R^2 independently denotes a linear, branched or cyclic C_4 - C_{24} alkyl group, preferably C_6 - C_{18} alkyl group, and more preferably C_8 - C_{12} alkyl group. It is preferable that R^1 and R^2 are the same.

As the linear alkyl group, mention may be made of a butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, a decyl group, an undecyl group, a dodecyl group, tridecyl group, a tetradecyl group, a pentadecyl group, a hexadecyl group, a heptadecyl group, an octadecyl group, a nonadecyl group, an eicosyl group, a behenyl group, a docosyl group, a tricosyl group, and a tetracosyl group.

As the branched alkyl group, mention may be made of a 1-methylpropyl group, 2-methylpropyl group, a t-butyl group, a 1,1-dimethylpropyl group, a 3-methylhexyl group, a 5-methylhexyl group, an 1-ethylhexyl group, an 2-ethylhexyl group, a 1-butylpentyl group, a 5-methyloctyl group, an 1-ethylhexyl group, an 2-ethylhexyl group, a 1-butylpentyl group, a 5-methyloctyl group, a 2-butyloctyl group, an isotridecyl group, a 2-pentyl-nonyl group, a 2-hexyldecyl group, an isostearyl group, a 2-heptylundecyl group, an 2-octyldodecyl group, a 1,3-dimethylbutyl group, a 1-(1-methylethyl)-2-methylpropyl group, a 1,1,3,3-tetramethylbutyl group, a 3,5,5-trimethylhexyl group, a 1-(2-methylpropyl)-3-methylbutyl group, a 3,7-dimethyloctyl group, and a 2-(1,3,3-trimethylbutyl)-5,7,7-trimethyloctyl group.

As the cyclic alkyl group, mention may be made of a cyclohexyl group, a 3-methylcyclohexyl group, and a 3,3,5-trimethylcyclohexyl group.

As examples of artificial triglycerides, mention may be made of, for example, capryl caprylyl glycerides, glyceryl trimyristate, glyceryl tripalmitate, glyceryl trilinolenate, glyceryl trilaurate, glyceryl tricaprinate, glyceryl tricaprylate, glyceryl tri(caprate/caprylate), and glyceryl tri(caprate/caprylate/linolenate).

As examples of silicone oils, mention may be made of, for example, linear organopolysiloxanes such as dimethylpolysiloxane, methylphenylpolysiloxane, methylhydrogenpolysiloxane, and the like; cyclic organopolysiloxanes such as cyclohexasiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, and the like; and mixtures thereof.

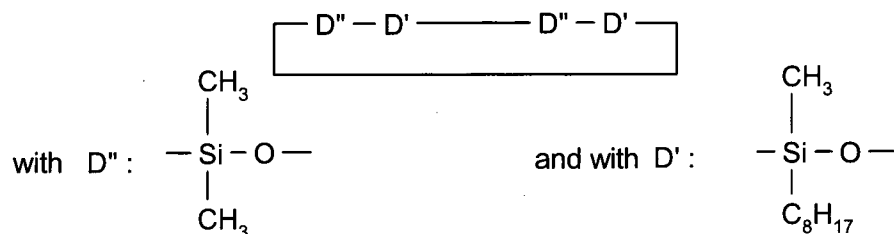
Preferably, the silicone oil is chosen from liquid polydialkylsiloxanes, especially liquid polydimethylsiloxanes (PDMS) and liquid polyorganosiloxanes comprising at least one aryl group.

These silicone oils may also be organomodified. The organomodified silicones that can be used in accordance with the present invention are silicone oils as defined above and comprise in their structure one or more organofunctional groups attached via a hydrocarbon-based group.

- 5 Organopolysiloxanes are defined in greater detail in Walter Noll's *Chemistry and Technology of Silicones* (1968), Academic Press. They may be volatile or non-volatile.

When they are volatile, the silicones are more particularly chosen from those having a boiling point of between 60°C and 260°C, and even more particularly from:

- 10 (i) cyclic polydialkylsiloxanes comprising from 3 to 7 and preferably 4 to 5 silicon atoms. These are, for example, octamethylcyclotetrasiloxane sold in particular under the name Volatile Silicone® 7207 by Union Carbide or Silbione® 70045 V2 by Rhodia, decamethylcyclopentasiloxane sold under the name Volatile Silicone® 7158 by Union Carbide, Silbione® 70045 V5 by Rhodia, and dodecamethylcyclopentasiloxane sold under the name Silsoft 1217 by Momentive Performance Materials, and mixtures thereof. Mention may also be made of cyclocopolymers of the type such as dimethylsiloxane/methylalkylsiloxane, such as Silicone Volatile® FZ 3109 sold by the company Union Carbide, of the formula:



- 20 Mention may also be made of mixtures of cyclic polydialkylsiloxanes with organosilicon compounds, such as the mixture of octamethylcyclotetrasiloxane and tetratrimethylsilylpentaerythritol (50/50) and the mixture of octamethylcyclotetrasiloxane and oxy-1,1'-bis(2,2,2',2',3,3'-hexatrimethylsilyloxy)neopentane; and

- 25 (ii) linear volatile polydialkylsiloxanes containing 2 to 9 silicon atoms and having a viscosity of less than or equal to 5×10^{-6} m²/s at 25°C. An example is decamethyltetrasiloxane sold in particular under the name SH 200 by the company Toray Silicone. Silicones belonging to this category are also described in the article published in *Cosmetics and Toiletries*, Vol. 91, Jan. 76, pp. 27-32, Todd & Byers, *Volatile Silicone Fluids for Cosmetics*. The viscosity of the silicones is measured at 25°C according to ASTM standard 445 Appendix C.

Non-volatile polydialkylsiloxanes may also be used. These non-volatile silicones are more particularly chosen from polydialkylsiloxanes, among which mention may be made mainly of polydimethylsiloxanes containing trimethylsilyl end groups.

- 35 Among these polydialkylsiloxanes, mention may be made, in a non-limiting manner, of the following commercial products:

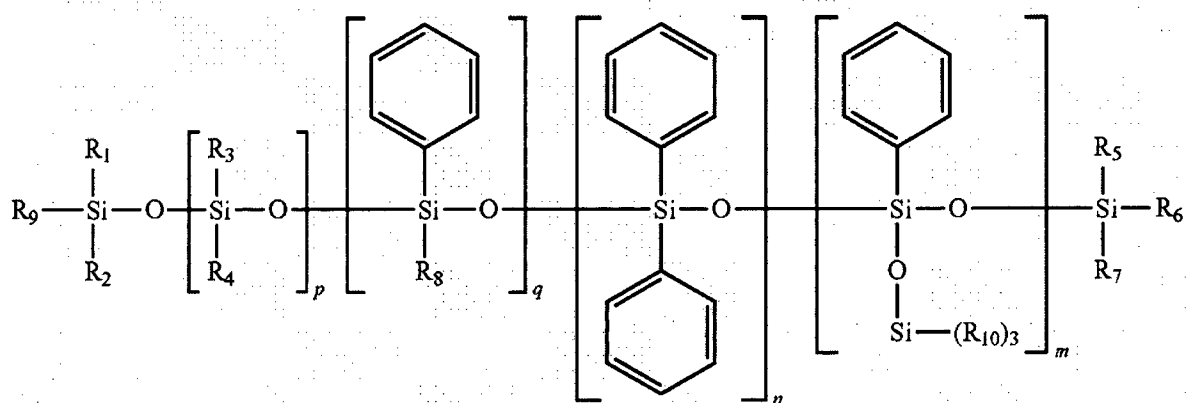
- the Silbione® oils of the 47 and 70 047 series or the Mirasil® oils sold by Rhodia, for instance the oil 70 047 V 500 000;
- 40 - the oils of the Mirasil® series sold by the company Rhodia;
- the oils of the 200 series from the company Dow Corning, such as DC200 with a viscosity of 60 000 mm²/s; and
- the Viscasil® oils from General Electric and certain oils of the SF series (SF 96, SF 18) from General Electric.

45

Mention may also be made of polydimethylsiloxanes containing dimethylsilanol end groups known under the name dimethiconol (CTFA), such as the oils of the 48 series from the company Rhodia.

- 5 Among the silicones containing aryl groups, mention may be made of polydiarylsiloxanes, especially polydiphenylsiloxanes and polyalkylarylsiloxanes such as phenyl silicone oil.

The phenyl silicone oil may be chosen from the phenyl silicones of the following formula:



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in which

R_1 to R_{10} , independently of each other, are saturated or unsaturated, linear, cyclic or branched C_1 - C_{30} hydrocarbon-based radicals, preferably C_1 - C_{12} hydrocarbon-based radicals, and more preferably C_1 - C_6 hydrocarbon-based radicals, in particular methyl, ethyl, propyl, or butyl radicals, and

15

m , n , p , and q are, independently of each other, integers of 0 to 900 inclusive, preferably 0 to 500 inclusive, and more preferably 0 to 100 inclusive, with the proviso that the sum $n+m+q$ is other than 0.

20 Examples that may be mentioned include the products sold under the following names:

- the Silbione® oils of the 70 641 series from Rhodia;
- the oils of the Rhodorsil® 70 633 and 763 series from Rhodia;
- the oil Dow Corning 556 Cosmetic Grade Fluid from Dow Corning;
- the silicones of the PK series from Bayer, such as the product PK20;
- 25 - certain oils of the SF series from General Electric, such as SF 1023, SF 1154, SF 1250, and SF 1265.

As the phenyl silicone oil, phenyl trimethicone (R_1 to R_{10} are methyl; p , q , and $n = 0$; $m=1$ in the above formula) is preferable.

30

The organomodified liquid silicones may especially contain polyethyleneoxy and/or polypropyleneoxy groups. Mention may thus be made of the silicone KF-6017 proposed by Shin-Etsu, and the oils Silwet® L722 and L77 from the company Union Carbide.

35 The hydrocarbon oils may be chosen from:

- linear or branched, optionally cyclic, C_6 - C_{16} lower alkanes. Examples that may be mentioned include hexane, undecane, dodecane, tridecane, and isoparaffins, for instance isohexadecane, isododecane, and isodecane;
- linear or branched hydrocarbons containing more than 16 carbon atoms, such as liquid paraffins, liquid petroleum jelly, polydecenes and hydrogenated polyisobutenes such as Parleam®,
- 40

and squalane; and

5 - mixtures of alkanes, for example, C9-12 Alkane, C10-13 Alkane, C13-14 Alkane, C13-15 Alkane, C14-17 Alkane, C14-19 Alkane, C15-19 Alkane, C15-23 Alkane, C18-21 Alkane, C8-9 Alkane/Cycloalkane, C9-10 Alkane/Cycloalkane, C9-11 Alkane/Cycloalkane, C9-16
10 Alkane/Cycloalkane, C10-12 Alkane/Cycloalkane, C11-14 Alkane/Cycloalkane, C11-15 Alkane/Cycloalkane, C12-13 Alkane/Cycloalkane..

15 As preferable examples of hydrocarbon oils, mention may be made of, for example, linear or branched hydrocarbons such as isohexadecane, isododecane, squalane, mineral oil (e.g., liquid paraffin), paraffin, vaseline or petrolatum, naphthalenes, and the like; hydrogenated polyisobutene, isoeicosan, and decene/butene copolymer; and mixtures thereof.

20 The term “fatty” in the fatty alcohol means the inclusion of a relatively large number of carbon atoms. Thus, alcohols which have 4 or more, preferably 6 or more, and more preferably 12 or
25 more carbon atoms are encompassed within the scope of fatty alcohols. The fatty alcohol may be saturated or unsaturated. The fatty alcohol may be linear or branched.

30 The fatty alcohol may have the structure R-OH wherein R is chosen from saturated and unsaturated, linear and branched radicals containing from 4 to 40 carbon atoms, preferably from 6 to 30 carbon atoms, and more preferably from 12 to 20 carbon atoms. In at least one
35 embodiment, R may be chosen from C₁₂-C₂₀ alkyl and C₁₂-C₂₀ alkenyl groups. R may or may not be substituted with at least one hydroxyl group.

40 As examples of the fatty alcohol, mention may be made of lauryl alcohol, cetyl alcohol, stearyl alcohol, isostearyl alcohol, behenyl alcohol, undecylenyl alcohol, myristyl alcohol, octyldodecanol, hexyldecanol, oleyl alcohol, linoleyl alcohol, palmitoleyl alcohol, arachidonyl alcohol, erucyl alcohol, and mixtures thereof.

45 It is preferable that the fatty alcohol be a saturated fatty alcohol.

50 Thus, the fatty alcohol may be selected from straight or branched, saturated or unsaturated C₆-C₃₀ alcohols, preferably straight or branched, saturated C₆-C₃₀ alcohols, and more preferably straight or branched, saturated C₁₂-C₂₀ alcohols.

55 The term “saturated fatty alcohol” here means an alcohol having a long aliphatic saturated carbon chain. It is preferable that the saturated fatty alcohol be selected from any linear or branched, saturated C₆-C₃₀ fatty alcohols. Among the linear or branched, saturated C₆-C₃₀ fatty alcohols, linear or branched, saturated C₁₂-C₂₀ fatty alcohols may preferably be used. Any linear or branched, saturated C₁₆-C₂₀ fatty alcohols may be more preferably used. Branched C₁₆-C₂₀ fatty alcohols may be even more preferably used.

60 As examples of saturated fatty alcohols, mention may be made of lauryl alcohol, cetyl alcohol, stearyl alcohol, isostearyl alcohol, behenyl alcohol, undecylenyl alcohol, myristyl alcohol, octyldodecanol, hexyldecanol, and mixtures thereof. In one embodiment, cetyl alcohol, stearyl alcohol, octyldodecanol, hexyldecanol, or a mixture thereof (e.g., cetearyl alcohol) as well as behenyl alcohol, can be used as a saturated fatty alcohol.

65 According to at least one embodiment, the fatty alcohol used in the composition according to the present invention is preferably chosen from cetyl alcohol, octyldodecanol, hexyldecanol, isostearyl alcohol, and mixtures thereof.

It is also preferable that the oil be chosen from oils with a molecular weight below 600 g/mol.

5 Preferably, the oil has a low molecular weight such as below 600 g/mol, chosen among ester oils with a short hydrocarbon chain or chains (C₁-C₁₂) (e.g., isopropyl myristate, isopropyl palmitate, isononyl isononanoate, and ethyl hexyl palmitate), silicone oils (e.g., volatile silicones such as cyclohexasiloxane), hydrocarbon oils (e.g., isododecane, isohexadecane, and squalane), branched and/or unsaturated fatty alcohol (C₁₂-C₃₀) type oils such as octyldodecanol and oleyl alcohol, and ether oils such as dicaprylyl ether.

10 It is preferable that the oil be chosen from polar oils, and more preferably from ester oils, fatty alcohols, and a combination thereof. It is further preferred that the oil comprise both of ester oils and fatty alcohols, in particular the monoesters of monoacids and of monoalcohols represented by the formula R₁COOR₂ in which R₁ represents the residue of a linear fatty acid comprising from 10 to 20 carbon atoms, and R₂ represents a branched hydrocarbon-based chain containing from 2 to 8 carbon atoms and the fatty alcohol having the structure R-OH wherein R is chosen from saturated branched radicals containing from 4 to 40 carbon atoms, preferably from 6 to 30 carbon atoms, and more preferably from 12 to 20 carbon atoms.

20 The amount of the oil(s) in the composition according to the present invention may be 0.5% by weight or more, preferably 1% by weight or more, more preferably 2% by weight or more, and even more preferably 4% by weight or more, relative to the total weight of the composition.

25 The amount of the oil(s) in the composition according to the present invention may be 30% by weight or less, preferably 20% by weight or less, more preferably 15% by weight or less, and even more preferably 10% by weight or less, relative to the total weight of the composition.

30 The amount of the oil(s) in the composition according to the present invention may be from 0.5% to 30% by weight, preferably from 1% to 20% by weight, more preferably from 2% to 15% by weight, and even more preferably from 4% to 10% by weight, relative to the total weight of the composition.

35 In one specific embodiment, the composition according to the present invention comprises N-acylamino acid ester oil(s) in an amount of less than 3% by weight, preferably less than 2% by weight, and more preferably less than 1% by weight, and even more preferably less than 0.5% by weight, relative to the total weight of the composition. In a further specific embodiment according to the present invention, the composition is free from N-acylamino acid ester oil. As the example of N-acylamino acid ester oil, mention can be made of isopropyl lauroyl sarcosinate.

40 (Nonionic Guar Gum)

The composition according to the present invention comprises (d) at least one nonionic guar gum. Two or more types of nonionic guar gums may be used in combination. Thus, a single type of nonionic guar gum or a combination of different types of nonionic guar gums may be used.

45 The term "nonionic guar gum" here intends to mean a guar gum which is modified with at least one nonionic functional group. The functional group can be hydroxy alkyl group, for example, C₁ to C₆ hydroxyalkyl group. Therefore, in one embodiment of the present invention, the nonionic guar gum is hydroxyalkyl guar gum, preferably hydroxyalkyl guar gum having C₁ to C₆ hydroxyalkyl groups, more preferably hydroxypropyl guar gum or hydroxyethyl guar gum, and in

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particular hydroxypropyl guar gum.

5 The guar gum is a complex carbohydrate polymer composed essentially of a straight chain of mannose units with single- membered galactose branches; chemically classified as a polygalactomannan. The mannose units are linked in a 1-4-beta-glycosidic linkage and the galactose branching takes place by means of a 1-6 linkage on alternate mannose units. The ratio of galactose to mannose in the guar polymer is, therefore, one to two.

10 In one preferred embodiment of the present invention, the nonionic guar gum, in particular hydroxypropyl guar gum, has more than 0.6 of degree of substitution. The term "degree of substitution" here means the average substitution of nonionic groups per anhydro sugar unit in the polygalactomannan gums. In guar gum, since the basic unit of the polymer consists of two mannose units with a glycosidic linkage and a galactose unit attached to a hydroxyl group of one of the mannose units, each of the anhydro sugar units contains three available hydroxyl sites on average. A degree of substitution of three would mean that all of the available hydroxyl sites
15 have been esterified with the nonionic groups.

In another preferred embodiment of the present invention, the nonionic guar gum, in particular hydroxypropyl guar gum has a degree of substitution of 0.7 or more, more preferably 0.8 or more,
20 even more preferably 0.9 or more, preferentially 1.0 or more, and in particular 1.1 or more.

The substitution degree of the nonionic guar gum of the present invention, in particular hydroxypropyl guar gum, is not particularly limited, and thus it can be 3.0 or less.

25 The nonionic guar gum, in particular hydroxypropyl guar gum, may advantageously have a weight average molecular weight of from 50,000 g/mol to 10,000,000 g/mol, preferably of from 200,000 g/mol to 5,000,000 g/mol and more preferably of from 1,000,000 g/mol to 5,000,000 g/mol. The weight average molecular weight here can be measured using, for example, Gas Permeation Chromatography.
30

As commercially available products of the nonionic guar gum, mention can be made of:

- hydroxypropyl guar gum sold under the name of Jaguar ® HP 120 by SOLVAY; and
- hydroxypropyl guar gum sold under the name of Jaguar ® HSG by SOLVAY.

35 The amount of the nonionic guar gum(s) in the composition according to the present invention may be 0.01% by weight or more, preferably 0.05% by weight or more, more preferably 0.1% by weight or more, and even more preferably 0.3% by weight or more, relative to the total weight of the composition.

40 The amount of the nonionic guar gum(s) in the composition according to the present invention may be 10% by weight or less, preferably 5% by weight or less, more preferably 2% by weight or less, and even more preferably 1% by weight or less, relative to the total weight of the composition.

45 The amount of the nonionic guar gum(s) in the composition according to the present invention may be from 0.01% to 10% by weight, preferably from 0.05% to 5% by weight, more preferably from 0.3% to 2% by weight, and even more preferably from 0.3% to 1% by weight, relative to the total weight of the composition.

50 (Water)

The composition according to the present invention can comprise water.

5 The composition according to the present invention comprises water in an amount of 35% by weight or less relative to the total weight of the composition.

10 The amount of water in the composition according to the present invention may be 0.1% by weight or more, preferably 1% by weight or more, more preferably 3% by weight or more, and even more preferably 5% by weight or more, relative to the total weight of the composition.

The amount of water in the composition according to the present invention may be 25% by weight or less, preferably 20% by weight or less, more preferably 15% by weight or less, and even more preferably 10% by weight or less, relative to the total weight of the composition.

15 The amount of the water in the composition according to the present invention may be from 0.1% to 25% by weight, preferably from 1% to 20% by weight, more preferably from 3% to 15% by weight, and even more preferably from 5% to 10% by weight, relative to the total weight of the composition.

20 (Other ingredients)

The composition according to the present invention may further comprise one or more of the adjuvants that are common in the fields of cosmetics and dermatology, selected from a physiologically acceptable medium, in particular water-soluble organic solvents; cationic, anionic, nonionic or amphoteric surfactants; cationic, anionic, non-ionic, amphoteric or zwitterionic polymers or mixtures thereof; gelling agents; thickeners; penetrating agents; pH adjuster; anti-dandruff agents; antioxidants; moisturizers; emollients; lipophilic active agents; free-radical scavengers; suspending agents; sequestering agents; buffer; fragrances; emollients; dispersing agents; dyes and/or pigments; film-forming agents; stabilizers; preservatives; co-preservatives; opacifying agents; agents which can cause a cooling sensation, such as menthol; and mixtures thereof.

30 The composition according to the present invention may further comprise plant extracts, such as extracts from Nymphaeaceae plant, for example, *Nymphaea alba* root extract.

35 Of course, those skilled in the art will take care to select the optional adjuvant(s) added to the composition according to the invention such that the advantageous properties intrinsically associated with the composition in accordance with the invention are not, or are not substantially, adversely affected by the envisioned addition.

40 The adjuvants may be present in the second composition of the present invention in an amount preferably ranging from 0.01% to 20% by weight, preferably from 0.1% to 10% by weight, and more preferably from 0.5% to 5% by weight, relative to the total weight of the composition.

45 The composition according to the present invention may take various forms, such as, a solution, a gel, a lotion, a serum, a suspension, a dispersion, a fluid, a milk, a paste, a cream, a foam, an emulsion (O/W or W/O form), multiple (e.g., W/O/W, polyol/O/W, and O/W/O) emulsions, and the like. In one specific embodiment, the composition according to the present invention is in the form of a solution, in particular a homogeneous solution. For the purposes of the present invention, the term "homogeneous" is intended to mean a composition consisting of a single

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phase.

5 In one specific embodiment of the present invention, the composition comprises surfactants, such as cationic, anionic, nonionic or amphoteric surfactants, which are different from components (a) to (d) of the present invention, in an amount of 5% by weight or less, preferably 3% by weight or less, more preferably 1% by weight or less, and even more preferably 0.5% by weight or less, relative to the total weight of the composition. In another specific embodiment of the present invention, the composition is free from any surfactants which are different from components (a) to (d) of the present invention.

10 The composition according to the present invention is a cosmetic composition. In a particular embodiment, the composition according to the invention is intended for topical application, especially to keratin materials.

15 For the purposes of the present invention, “keratin materials” is intended to mean the skin and keratinous fibers. The term “skin” used herein includes facial and/or bodily skin and the scalp. The term “keratinous fiber” used herein include eyelashes, eyebrows, and hair.

20 According to a particular embodiment of the invention, the composition is intended for topical application to keratin materials such as scalp and hair. In some embodiments, the composition may be a hair care and/or a scalp care and/or skin care composition.

25 The composition used according to the present invention is preferably intended to be used as a leave-on (or leave-in) type cosmetic composition. The term “leave-on” means a composition that is not intended to be washed/rinsed out or removed immediately after application. The leave-on composition is different from rinse-off type composition, which is intended to be rinsed off after being used on keratin materials.

30 The composition according to the present invention can be prepared by mixing the above essential and optional ingredients in accordance with any of the processes which are well known to those skilled in the art.

[Cosmetic Process and Use]

35 The present invention relates to a cosmetic process for caring for or conditioning a keratin material, such as hair, scalp and/or skin, comprising applying to the keratin material the composition according to the present invention.

40 The cosmetic process here means a non-therapeutic cosmetic method for caring for and/or conditioning the keratin material.

The application step can be performed by any conventional means such as an applicator, e.g., hands, a spray, and a brush. The application step can be a topical application step.

45 The composition according to present invention is intended to be used as a leave-on type cosmetic composition. Therefore, the cosmetic process according to the present invention do not include a rinse out or wash out step of the applied composition from the keratin material after the application step. In one embodiment of the present invention, the cosmetic process of the present invention do not include a rinse out or wash out step of the applied composition within one hour, preferably within 2 hours, more preferably within 4 hours, and even more preferably within

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8 hours after the application step.

Moreover, the present invention also relates to a use of the composition according to the present invention in the field of cosmetics, in particular caring for and/or conditioning a keratin material.

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EXAMPLES

The present invention will be described in more detail by way of examples which however should not be construed as limiting the scope of the present invention.

10

(Preparation)

Compositions according to Examples 1 and 2 and Comparative Examples 1 to 7 were prepared by mixing the ingredients listed in Table 1. Hydroxypropyl guar gum products of Jaguar® HP 120 and Jaguar® HSG were obtained from Solvay. Hydroxypropyl tetrahydropyrantriol product of MEXORYL SCN® was obtained from NOVEAL. The numerical values for the amounts of the ingredients shown in Table 1 are all based on “% by weight” as active raw materials.

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(Stability)

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10 g of each of obtained compositions was kept at 4 °C, 25 °C, and 45 °C for two months after they were manufactured, respectively. The stability property was evaluated for each composition under the following criteria.

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OK: the composition was thickened at 4 °C, 25 °C, and 45 °C

NG: the composition was not thickened, the ingredient was not soluble or a phase separation was occurred at 4 °C, 25 °C, and/or 45 °C.

Table 1

Ingredients	Ex. 1	Ex. 2	Comp. Ex. 1	Comp. Ex. 2	Comp. Ex. 3	Comp. Ex. 4	Comp. Ex. 5	Comp. Ex. 6	Comp. Ex. 7
Ethanol	68.17	68.17	68.17	68.17	68.17	68.17	68.17	68.17	68.17
Hydroxypropyl Tetrahydropyrantriol	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Glycerin	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Propylene Glycol	7	7	7	7	7	7	7	7	7
Nymphaea Alba Root Extract	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Isostearyl Alcohol	1	1	1	1	1	1	1	1	1
Isopropyl Myristate	5	5	5	5	5	5	5	5	5
Menthol	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Fragrance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hydroxypropyl Guar Gum (Jaguar® HP 120)	0.4	-	-	-	-	-	-	-	-
Hydroxypropyl Guar Gum (Jaguar® HP HSG)	-	0.4	-	-	-	-	-	-	-
Hydroxypropyl Guar Gum (Jaguar® HP8 (COS)SGI)	-	-	0.4	-	-	-	-	-	-
Hydroxypropyl Cellulose	-	-	-	1	-	-	-	-	-
Hydroxypropyl Methylcellulose	-	-	-	-	0.4	-	-	-	-
Sclerotium Gum	-	-	-	-	-	0.4	-	-	-
Dehydroxanthan Gum	-	-	-	-	-	-	0.4	-	-
Acrylates Copolymer	-	-	-	-	-	-	-	0.4	-
PEG-12 Dimethicone / PPG-20 Crosspolymer	-	-	-	-	-	-	-	-	0.4
Deionized Water	qs 100	qs 100	qs 100	qs 100	qs 100	qs 100	qs 100	qs 100	qs 100
Evaluation									
Stability	OK	OK	NG	NG	NG	NG	NG	NG	NG

As can be seen from the results in Table 1, the compositions according to Examples 1 and 2 were able to be thickened with the ingredients (a) to (e) of the present invention, thus they showed good stability. On the other hand, the compositions according to Comparative Examples 1 to 7, which do not include the nonionic guar gum of the present invention, did not show good stability. Specifically, in the compositions according to Comparative Examples 1, 3 to 5, and 7, the hydroxypropyl guar gum (Jaguar® HP8 (COS) SGI), hydroxypropyl methylcellulose, sclerotium gum, and dehydroxanthan gum PEG-12 dimethicone/PPG-20 crosspolymer, respectively, were not dissolved in the composition, and thus the thickening effect was not obtained. In the composition according to Comparative Example 2, no thickening effect was obtained. In the composition according to Comparative Example 6, a phase separation was observed.

(Sensory Assessments)

Three hair swatches (1 g, 27 cm) were prepared for each experiment. Each of the hair swatches was washed with a clarifying shampoo once. The formulation of the clarifying shampoo is shown in Table 2 as below. After shampooing, the hair swatch was rinsed with water and then towel-dried. 0.2 g of each of the compositions according to Example 1 and Comparative Example 8 was applied onto each hair swatch. The hair swatch was left for 5 minutes. The composition according to Comparative Example 8 was prepared in the same manner as that of Example 1. The hair swatch was rinsed off under running water, and then blow-dried to obtain a treated hair swatch. The formulation of Comparative Example 7 as well as Example 1 are shown in Table 3. The numerical values for the amounts of the ingredients in Tables 2 and 3 are all based on “% by weight” as active raw materials.

Smoothness and greasiness sensation of the treated hair swatch were assessed by 5 panelists in accordance with the following criteria. The benchmark means the assessment result for the hair swatch itself, i.e., without the application of any composition.

- 5: Much higher than benchmark
- 4: Higher than benchmark
- 3: Parity to benchmark
- 2: Lower than benchmark
- 1: Much lower than benchmark

The scores thus obtained were averaged. The results are shown in the line labelled “Sensory Assessments” in Table 3.

(Smoothness (COF))

Three hair swatches (1 g, 27 cm) were prepared for each experiment. Each of the hair swatches was washed with a clarifying shampoo once. The formulation of the clarifying shampoo is shown in Table 2 as below. After shampooing, the hair swatch was rinsed with water and then towel-dried. 0.2 g of each of the compositions according to Example 1 and Comparative Example 8 was applied onto each hair swatch, and left for 5 minutes. The hair swatch was then rinsed off under running water for no longer than 5 seconds, and then dried naturally under ambient conditions at 24°C /40%RH for at least 30 minutes to obtain a treated hair swatch.

The treated hair swatch was placed on a plate, and its root side was fixed on the plate with a hair clip. The smoothness of the treated hair swatch was evaluated by scanning the hair swatch from root to tip with a sensor (Handy Rub Tester (type TL701) from Trinity Lab) and measuring COF (Coefficient of Friction). The measurement was carried out 3 times for a single treated hair swatch. The same procedure was conducted with two more hair swatches to obtain 9 results in total for one composition, and the mean values were calculated for each composition. A lower score indicates that a better smoothness effect can be exerted.

The COF of the hair swatch itself was 0.20.

The results are shown on the line labelled "Smoothness (COF)" in Table 3. The smaller the COF, the greater the smoothness.

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Table 2

Ingredients	Cleansing Shampoo
Hexylene Glycol	1
Sodium Chloride	1
Coco-Betaine	9
Sodium Laureth Sulfate	15
Polyquaternium-10	0.3
Sodium Benzoate	0.5
Salicylic Acid	0.2
Citric Acid	qs pH 5.3
Sodium Hydroxide	qs pH 5.3
DI Water	Qs 100

Table 3

Ingredients	Ex. 1	Comp. Ex. 8	
Ethanol	68.17	68.17	
Hydroxypropyl Tetrahydropyrantriol	8.7	8.7	
Glycerin	1.5	1.5	
Propylene Glycol	7	7	
Nymphaea Alba Root Extract	0.25	0.25	
Isostearyl Alcohol	1	1	
Isopropyl Myristate	5	5	
Menthol	0.3	0.3	
Fragrance	0.5	0.5	
Hydroxypropyl Guar Gum (Jaguar® HP 120)	0.4	-	
Deionized Water	qs 100	qs 100	
Evaluation			
Sensory Assessments	Smoothness	4	3
	Greasiness	2.41	2.92
Smoothness (COF)	0.2	0.23	

As can be seen from the results in Table 3, the composition according to Example 1 was able to impart a better texture, i.e. smoother and less grease texture, to hair.

Therefore, it can be concluded that the composition according to the present invention is very suitable as a cosmetic composition, in particular cosmetic topical composition for keratinous materials. In particular, the composition according to the present invention is very useful as a leave-on topical cosmetic composition since it exhibits smooth and less grease texture although it comprises an oil and a water-soluble alcohol.

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CLAIMS

1. A composition comprising:
5 (a) at least one hydrophilic active agent,
(b) at least one water-soluble alcohol in an amount of 40% by weight or more relative to the total weight of the composition,
(c) at least one oil,
(d) at least one nonionic guar gum, and
10 (e) water in an amount of 35% by weight or less relative to the total weight of the composition.
2. The composition according to Claim 1, wherein the (d) at least one nonionic guar gum is hydroxyalkyl guar gum, preferably hydroxyalkyl guar gum having C₁ to C₆ hydroxyalkyl groups, more preferably hydroxypropyl guar gum or hydroxyethyl guar gum, and in particular hydroxypropyl guar gum.
15
3. The composition according to Claim 1 or 2, wherein the (d) at least one nonionic guar gum has a degree of substitution of more than 0.6, preferably 0.7 or more, more preferably 0.8 or more, even more preferably 0.9 or more, preferentially 1.0 or more, and in particular 1.1 or more.
20
4. The composition according to any one of Claims 1 to 3, wherein the (b) at least one water-soluble alcohol comprises at least one monoalcohol, at least one diol, and at least one triol in combination.
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5. The composition according to any one of Claims 1 to 4, wherein the (b) at least one water-soluble alcohol is present in the composition in an amount ranging from 50% to 95% by weight, preferably from 60% to 90% by weight, more preferably from 65% to 85% by weight, and even more preferably from 70% to 80% by weight, relative to the total weight of the composition.
30
6. The composition according to any one of Claims 1 to 5, wherein the (c) at least one oil is chosen from ester oils, fatty alcohols, and combinations thereof.
- 35 7. The composition according to any one of Claims 1 to 6, wherein the amount of the (c) at least one oil ranges from 0.5% to 30% by weight, preferably 1% to 20% by weight, more preferably from 2% to 15% by weight, and even more preferably from 4% to 10% by weight, relative to the total weight of the composition.
- 40 8. The composition according to any one of Claims 1 to 7, wherein the (a) at least one hydrophilic active agent is selected from moisturizers; depigmenting agents; desquamating agents; anti-ageing agents; mattifying agents; cicatrizing agents; blood-circulation promoting ingredient; antibacterial agents; and mixtures thereof.
- 45 9. The composition according to any one of Claims 1 to 8, wherein the amount of the (a) at least one hydrophilic active agent ranges from 0.1% to 20% by weight, preferably from 0.5% to 15% by weight, more preferably from 1% to 12% by weight, even more preferably from 2% to 10% by weight or more, and in particular from 3% to 10% by weight, relative to the total weight of the composition.
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10. The composition according to any one of Claims 1 to 9, wherein the amount of the (e) water is from 0.1% to 25% by weight, preferably from 1% to 20% by weight, more preferably from 3% to 15% by weight, and even more preferably from 5% to 10% by weight, relative to the total weight of the composition.
- 5
11. The composition according to any one of Claims 1 to 10, which is in the form of a homogeneous solution.
12. The composition according to any one of Claims 1 to 11, which is a leave-on type cosmetic composition.
- 10
13. The composition according to any one of Claims 1 to 12, wherein the (b) at least one water-soluble alcohol comprises at least one diol, and the amount of the at least one diol ranges from 1% to 25% by weight, preferably from 2% to 20% by weight, more preferably from 3% to 15% by weight, and even more preferably from 5% to 10% by weight, relative to the total weight of the composition.
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14. A cosmetic process for caring for and/or conditioning a keratin material, such as skin, scalp and/or hair, comprising applying to the keratin material the composition according to any one of Claims 1 to 13.
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15. The cosmetic process according to Claim 14, which does not include a rinse out or wash out step of the applied composition within one hour, preferably within 2 hours, more preferably within 4 hours, and even more preferably within 8 hours after applying the composition.
- 25

INTERNATIONAL SEARCH REPORT

International application No PCT/JP2022/041281
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A. CLASSIFICATION OF SUBJECT MATTER		
INV. A61Q5/12	A61Q19/00	A61K8/368
A61K8/92	A61K8/73	A61K8/37
ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) A61Q A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE GNPD [Online] MINTEL; 24 January 2019 (2019-01-24), anonymous: "Sleeping Mask", XP055970496, Database accession no. 6250565 abstract	1-15
X	DATABASE GNPD [Online] MINTEL; 22 November 2018 (2018-11-22), anonymous: "Miracle Nectar Repairing Leave-In", XP055970494, Database accession no. 6137699 abstract	1-15
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<input checked="" type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/>
		See patent family annex.
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"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family	
Date of the actual completion of the international search	Date of mailing of the international search report	
19 January 2023	27/01/2023	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Verrucci, Marinella	

INTERNATIONAL SEARCH REPORT

International application No
PCT/JP2022/041281

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2021/056522 A1 (OREAL [FR]; XU RONGJING [CN]) 1 April 2021 (2021-04-01) example 1 <p style="text-align: center;">-----</p>	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/JP2022/041281

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2021056522 A1	01-04-2021	CN 114401770 A	26-04-2022
		WO 2021056522 A1	01-04-2021
