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(71) Applicant (for all designated States except US): **L'OREAL** [FR/FR]; 14 rue Royale, F-75008 Paris (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BICHON, Yohann** [FR/FR]; 4 domaine du Château Gaillard, F-94700 Maisons-Alfort (FR). **DUMOUSSEAU, Christophe** [FR/FR]; 28 avenue de la Division Leclerc, F-92160 Antony (FR).

(74) Agent: **LE COUPANEC, Pascale**; 3 rue de Penthievre, F-75008 Paris (FR).

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(54) Title: COSMETIC COMPOSITION COMPRISING A SURFACTANT WITH HLB GREATER THAN OR EQUAL TO 12 AND A COATED PIGMENT

(57) Abstract: The present invention relates to a cosmetic composition, comprising a physiologically acceptable medium, characterized in that it comprises at least one oil phase dispersed in an aqueous phase, and in that it comprises (i) at least one anionic or non-ionic surfactant with HLB greater than or equal to 12, and (ii) at least one pigment coated with at least one specific lipophilic compound.



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Cosmetic composition comprising a surfactant with HLB greater than or equal to 12 and a coated pigment

The present invention relates to cosmetic compositions, notably in the form of emulsions, for the make-up and/or the care of keratinous materials, including keratin fibres, in particular of the skin and of the eyelashes.

The cosmetic products in question are more particularly intended to be applied on the eyelashes, as mascaras or on the skin, notably as foundation.

In the field of make-up and/or of cosmetic care, a great many compositions are in the form of emulsions. These emulsions generally contain one or more emulsifier(s) selected from anionic, non-ionic or amphoteric emulsifiers, used alone or mixed, and optionally a co-emulsifier.

The emulsifiers are selected appropriately depending on the emulsion to be obtained (W/O or O/W).

The present invention relates more specifically to emulsions formed from a dispersion of an oil phase in an aqueous continuous phase, and more particularly emulsions of the wax-in-water and oil-in-water type.

Moreover, the cosmetic compositions, whether those intended for make-up of the skin such as foundation or of keratin fibres such as mascaras, generally aim to provide, in the sense of make-up, an aesthetic effect, and more particularly a colouring effect. The latter is generally obtained by incorporating one or more pigments in the composition.

However, the use of pigments in compositions of the emulsion type is not without problems with respect to the quality of the emulsion obtained, in particular in terms of stability of the emulsion and/or of quality of dispersion of the pigments within the formula.

Generally, during emulsification, the surfactants may in fact have a tendency to be adsorbed on the surface of the pigments used, so that they no longer perform their intended role within the emulsion. In other words, these surfactants that have been adsorbed are no longer located on the interface of the oil phase for its proper emulsification.

Consequently, the formulas thus obtained may prove to be difficult to use and to stabilize. Phase separation may be observed during and after emulsification, even with vigorous stirring, and a grainy and unstable appearance on cooling. Because of this, the

emulsion may display qualities of very average dispersion of the pigments and/or fineness of emulsion (presence of globules when observed under the microscope, agglomeration or flocculation of pigments, grey colour of the final formula, etc.).

The present invention in fact aims to offer cosmetic compositions for make-up and/or care of keratinous materials, in the form of emulsions, containing pigments, and which display good quality of dispersion of the pigments and/or of fineness of the emulsion.

Document US 2006/0225617 relates to coloured cosmetic compositions comprising coated pigments with polyhydroxy fatty acid, notably dihydroxystearic acid and/or a metal salt thereof, with improved properties, such as, in the case of a mascara, a gain in curving power and in volume and a decrease in drying time.

Document US 6,432,417 relates to cosmetic compositions comprising a dispersion of particles, in particular of coated pigments with a cationic polymer, displaying good properties of adhesion and, in the case of compacted compositions, good properties of cohesion.

Document US 7,094,395 relates to a cosmetic composition prepared from an aqueous phase comprising various surfactants and a pigment-in-oil dispersion that is formed by mixing the pigments with castor oil. Such pigments are not "coated" pigments in the sense of the invention, as defined below. In particular, castor oil may not be resistant to techniques of surface treatment as developed subsequently.

As can be seen from the examples presented below, the inventors discovered that it is possible to formulate an emulsion of improved quality, notably in terms of stability, of fineness of the emulsion and of dispersion of the pigments, provided that pigments in a form coated with at least one lipophilic compound are used in combination with one or more surfactants present in free form in the aqueous phase.

In the sense of the invention, the wording "surfactants present in free form" is intended to distinguish these surfactants from those optionally included in the composition for coating the pigments according to the invention. The set of surfactants present in free form in a composition according to the invention is also-called "emulsifying system".

In the sense of the invention, a "coated" pigment generally denotes a pigment that has been surface-treated, completely or partially, with a surface agent, absorbed,

adsorbed or grafted on said pigment. The agents for surface treatment are developed subsequently.

Without being bound to a theory, it can be assumed that the use of a pigment coated with at least one lipophilic compound makes it possible to limit the adsorption of the surfactant or surfactants of the emulsifying system of the composition according to the invention on the pigments, thus making it possible to improve the effectiveness of the surfactants within the formulation.

This notably results in improvement of application of the emulsion and of the general state of dispersion, notably improved fineness and stability of the emulsion and dispersion of the pigments.

Thus, according to a first aspect, the present invention relates to a cosmetic composition, comprising a physiologically acceptable medium, characterized in that it comprises at least one oil phase dispersed in an aqueous phase, and in that it comprises (i) at least one anionic or non-ionic surfactant with HLB greater than or equal to 12, said surfactant being present in free form in the composition, and (ii) at least one pigment coated with at least one lipophilic compound, with the exception of the metal salts of C₁₀-C₃₀ fatty acids, and notably selected from fluorinated surface agents; fluorosilicone surface agents; metal soaps; N-acylated amino acids or salts thereof; lecithin and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; fatty esters; phospholipids, and mixtures thereof.

Optimization of the effectiveness of the surfactants present in free form in a composition of the invention, as a result of coating the pigments with at least one lipophilic compound, advantageously makes it possible to reduce the content of surfactants in the emulsifying system employed.

Thus, the surfactant or surfactants with HLB greater than or equal to 12, present in free form in a composition of the invention or emulsifying system can represent from 0.05 to 5 wt.%, preferably 0.1 to 3 wt.%, more preferably 0.2 to 2 wt.%, relative to the total weight of the composition.

The low content of surfactants in a composition according to the invention, combined with the presence of coated pigments with at least one lipophilic compound, makes it possible in particular to obtain a composition that is long-lasting, and in particular has good water resistance.

According to a particular embodiment, the invention relates to a cosmetic composition, comprising a physiologically acceptable medium, characterized in that it comprises at least one oil phase dispersed in an aqueous phase, and in that it comprises (i) at least one anionic or non-ionic surfactant with HLB greater than or equal to 12, said
5 surfactant being present in free form in the composition, and (ii) at least one pigment coated with at least one lipophilic compound, with the exception of the metal salts of C₁₀-C₃₀ fatty acids, characterized in that :

- the lipophilic coating compound is selected from fluorinated surface agents; fluorosilicone surface agents; metal soaps; N-acylated amino acids or salts thereof; lecithin
10 and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; fatty esters; phospholipids, and mixtures thereof ; and

- the surfactant(s) with HLB greater than or equal to 12, present in free form in the composition is/are selected from the non-ionic surfactants selected from the alkyl and polyalkyl esters of poly(ethylene oxide), the alkyl and polyalkyl ethers of poly(ethylene
15 oxide), the alkyl and polyalkyl esters of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl ethers of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl glycosides or polyglycosides, in particular the alkyl and polyalkyl glucosides or polyglucosides, the alkyl and polyalkyl esters of sucrose, the alkyl and polyalkyl esters of glycerol, whether polyethoxylated or not, the alkyl and polyalkyl ethers of glycerol,
20 whether polyethoxylated or not and mixtures thereof; the anionic surfactants selected from alkyl ether sulphates, carboxylates, derivatives of amino acids, sulphonates, isethionates, taurates, sulphosuccinates, alkylsulphoacetates, polypeptides, metal salts of C₁₀-C₃₀, notably C₁₂-C₂₀ fatty acids, in particular metal stearates and mixtures thereof.

According to another of its aspects, the invention relates to a cosmetic method
25 of make-up and/or of non-therapeutic care of keratinous materials, in particular of the eyelashes or of the skin, comprising at least the application of a composition as defined previously on said keratinous materials.

According to another of its aspects, the present invention also relates to the use, in a composition comprising at least one oil phase dispersed in an aqueous phase, of a
30 combination of at least (i) an anionic or non-ionic surfactant with HLB greater than or equal to 12, said surfactant being present in free form in the composition, and of at least (ii)

a coated pigment as described previously, for improving the stability and/or the fineness of the emulsion and/or dispersion of said pigments.

SURFACTANTS WITH HLB GREATER THAN OR EQUAL TO 12

5 According to one embodiment of the invention, a composition according to the invention comprises at least one surfactant with HLB greater than or equal to 12, in particular selected from the non-ionic and anionic surfactants.

Preferably, the surfactants suitable for the invention have an HLB greater than or equal to 12, notably greater than or equal to 14, preferably greater than or equal to 16.

10 "HLB greater than or equal to 12 (or 14, 16 respectively)" means that a surfactant possesses, at 25°C, a hydrophilic-lipophilic balance (HLB) in Griffin's sense greater than or equal to 12 (or 14, 16).

The HLB value according to Griffin is defined in J. Soc. Cosm. Chem. 1954 (volume 5), pages 249-256.

15 Reference may be made to the document "Encyclopedia of Chemical Technology, KIRK-OTHMER", volume 22, p. 333-432, 3rd edition, 1979, WILEY, for the definition of the properties and functions (emulsifying) of surfactants, in particular p. 347-377 of this reference, for non-ionic surfactants.

20 The surfactant with HLB greater than or equal to 12 can be ionic, non-ionic or of mixed ionic and non-ionic character.

In particular it is possible to use the surfactants with HLB greater than or equal to 12 that are mentioned in McCutcheons Emulsifiers & Detergents, International Edition of 1998 and subsequent. As examples, we may mention those listed on pages 223 to 231 of the section HLB Index of the 1998 edition.

25 Advantageously, the surfactant(s) with HLB greater than or equal to 12, present in free form in the composition is/are selected from the non-ionic surfactants selected from the alkyl and polyalkyl esters of poly(ethylene oxide), the alkyl and polyalkyl ethers of poly(ethylene oxide), the alkyl and polyalkyl esters of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl ethers of sorbitan, whether
30 polyethoxylated or not, the alkyl and polyalkyl glycosides or polyglycosides, in particular the alkyl and polyalkyl glucosides or polyglucosides, the alkyl and polyalkyl esters of sucrose, the alkyl and polyalkyl esters of glycerol, whether polyethoxylated or not, the

alkyl and polyalkyl ethers of glycerol, whether polyethoxylated or not and mixtures thereof; the anionic surfactants selected from alkyl ether sulphates, carboxylates, derivatives of amino acids, sulphonates, isethionates, taurates, sulphosuccinates, alkylsulphoacetates, polypeptides, metal salts of C₁₀-C₃₀, notably C₁₂-C₂₀ fatty acids, in particular metal stearates and mixtures thereof.

Non-ionic surfactants

The non-ionic surfactants can notably be selected from the alkyl and polyalkyl esters of poly(ethylene oxide), the alkyl and polyalkyl ethers of poly(ethylene oxide), the alkyl and polyalkyl esters of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl ethers of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl glycosides or polyglycosides, in particular the alkyl and polyalkyl glucosides or polyglucosides, the alkyl and polyalkyl esters of sucrose, the alkyl and polyalkyl esters of glycerol, whether polyethoxylated or not, the alkyl and polyalkyl ethers of glycerol, whether polyethoxylated or not, and mixtures thereof.

1) As alkyl and polyalkyl esters of poly(ethylene oxide), preferably those are used having number of ethylene oxide (EO) units ranging from 2 to 200. We may mention, for example, stearate 40 EO, stearate 50 EO, stearate 100 EO, laurate 20 EO, laurate 40 EO, distearate 150 EO.

2) As alkyl and polyalkyl ethers of poly(ethylene oxide), preferably those are used having number of ethylene oxide (EO) units ranging from 2 to 200. We may mention, for example, cetyl ether 23 EO, oleyl ether 50 EO, phytosterol 30 EO, steareth 40, steareth 100, beheneth 100.

3) As alkyl and polyalkyl esters of sorbitan, whether polyethoxylated or not, preferably those are used having number of ethylene oxide (EO) units ranging from 0 to 100. We may mention, for example, sorbitan laurate 4 or 20 EO, in particular polysorbate 20 (or polyoxyethylene (20) sorbitan monolaurate) such as the product Tween 20 marketed by the company Uniqema, sorbitan palmitate 20 EO, sorbitan stearate 20 EO, sorbitan oleate 20 EO or Cremophor (RH 40, RH 60 etc.) from BASF.

4) As alkyl and polyalkyl ethers of sorbitan, whether polyethoxylated or not, preferably those are used having number of ethylene oxide (EO) units ranging from 0 to 100.

5) As alkyl and polyalkyl glucosides or polyglucosides, preferably those are used containing an alkyl group having from 6 to 30 carbon atoms and preferably from 6 to 18, or even from 8 to 16 carbon atoms, and containing a glucoside group preferably containing from 1 to 5, notably 1, 2 to 3 glucoside units. The alkylpolyglucosides can be selected for example from decylglucoside (Alkyl-C₉/C₁₁-polyglucoside (1.4)) such as the product marketed under the name Mydol 10[®] by the company Kao Chemicals or the product marketed under the name Plantacare 2000 UP[®] by the company Henkel and the product marketed under the name ORAMIX NS 10[®] by the company SEPPIC; caprylyl/capryl glucoside such as the product marketed under the name Plantacare KE 3711[®] by the company Cognis or ORAMIX CG 110[®] by the company SEPPIC; laurylglucoside such as the product marketed under the name Plantacare 1200 UP[®] by the company Henkel or Plantaren 1200 N[®] by the company Henkel; cocoglucoside such as the product marketed under the name Plantacare 818 UP[®] by the company Henkel; caprylylglucoside such as the product marketed under the name Plantacare 810 UP[®] by the company Cognis; and mixtures thereof.

More generally, the surfactants of alkylpolyglycoside type are defined more specifically hereunder.

6) As alkyl and polyalkyl esters of sucrose, we may mention for example Crodesta F150, sucrose monolaurate marketed under the name Crodesta SL 40, the products marketed by Ryoto Sugar Ester for example, sucrose palmite marketed under reference Ryoto Sugar Ester P1670, Ryoto Sugar Ester LWA 1695, Ryoto Sugar Ester 01570.

7) As alkyl and polyalkyl esters of glycerol, whether polyethoxylated or not, preferably those are used having number of ethylene oxide (EO) units ranging from 0 to 100 and number of glycerol units ranging from 1 to 30. We may mention, for example, hexaglyceryl monolaurate and PEG-30 glyceryl stearate.

8) As alkyl and polyalkyl ethers of glycerol, whether polyethoxylated or not, preferably those are used having number of ethylene oxide (EO) units ranging from 0 to 100 and number of glycerol units ranging from 1 to 30. As examples, we may mention Nikkol Batyl alcohol 100, Nikkol chimyl alcohol 100.

Anionic surfactants

The anionic surfactants can be selected from alkyl ether sulphates, carboxylates, derivatives of amino acids, sulphonates, isethionates, taurates, sulphosuccinates, alkylsulphoacetates, phosphates and alkylphosphates, polypeptides, metal salts of C₁₀-C₃₀, notably C₁₂-C₂₀, fatty acids, in particular metal stearates and mixtures thereof.

1) As alkyl ether sulphates, we may mention for example lauryl ether sodium sulphate (C₁₂-14 70-30) (2.2 EO) marketed under the names SIPON AOS225 or TEXAPON N702 by the company Henkel, lauryl ether ammonium sulphate (C₁₂-14 70-30) (3 EO) marketed under the name SIPON LEA 370 by the company Henkel, alkyl (C₁₂-C₁₄) ether (9 EO) ammonium sulphate marketed under the name RHODAPEX AB/20 by the company Rhodia Chimie, and the mixture of lauryl and oleyl ether sulphate of sodium and of magnesium marketed under the name EMPICOL BSD 52 by the company Albright & Wilson.

2) As carboxylates, we may mention for example the salts (for example alkaline) of N-acylamino acids, the glycolcarboxylates, the amido ether carboxylates (AEC) and the salts of polyethoxylated carboxylic acids.

The surfactant of the glycol carboxylate type can be selected from the carboxylic alkyl glycols or 2-(2-hydroxyalkyloxy acetate), salts thereof and mixtures thereof. These carboxylic alkyl glycols have a linear or branched, saturated or unsaturated, aliphatic and/or aromatic alkyl chain, having from 8 to 18 carbon atoms. These carboxylic compounds can be neutralized with mineral bases such as potassium hydroxide or sodium hydroxide.

As surfactants of the carboxylic glycol type, we may mention for example sodium lauryl glycol carboxylate or 2-(2-hydroxyalkyloxy sodium acetate) such as the product marketed under the name Beaulight Shaa[®] by the company Sanyo, Beaulight LCA-25N[®] or the corresponding acid form Beaulight Shaa (Acid form)[®].

As amido ether carboxylate (AEC), we may mention for example sodium lauryl amido ether carboxylate (3 EO), marketed under the name AKYPO FOAM 30[®] by the company Kao Chemicals.

As salt of polyethoxylated carboxylic acid, we may mention for example ethoxylated (6 EO) sodium lauryl ether carboxylate (C₁₂₋₁₄₋₁₆ 65/25/10) marketed under the name AKYPO SOFT 45 NV[®] by the company Kao Chemicals, the polyethoxylated

and carboxymethylated fatty acids derived from olive oil marketed under the name OLIVEM 400[®] by the company BIOLOGIA E TECNOLOGIA, ethoxylated (6 EO) sodium tridecyl ether carboxylate marketed under the name NIKKOL ECTD-6NEX[®] by the company Nikkol.

5 3) As derivatives of amino acids, we may notably mention the alkali metal salts of amino acids, such as:

- the sarcosinates, such as sodium lauroyl sarcosinate marketed under the name SARKOSYL NL 97[®] by the company Ciba or marketed under the name ORAMIX L 30[®] by the company Seppic, sodium myristoyl sarcosinate marketed under
10 the name NIKKOL SARCOSINATE MN[®] by the company Nikkol, sodium palmitoyl sarcosinate marketed under the name NIKKOL SARCOSINATE PN[®] by the company Nikkol.

- the alaninates, such as sodium N-lauroyl-N methyl amidopropionate marketed under the name SODIUM NIKKOL ALANINATE LN 30[®] by the company
15 Nikkol, or marketed under the name ALANONE ALE[®] by the company Kawaken, N-lauroyl N-methyl alanine triethanolamine marketed under the name ALANONE ALTA[®] by the company Kawaken.

- the glutamates, such as mono-cocoyl triethanolamine glutamate marketed under the name ACYLGLUTAMATE CT-12[®] by the company Ajinomoto,
20 triethanolamine lauroylglutamate marketed under the name ACYLGLUTAMATE LT-12[®] by the company Ajinomoto.

The salts and/or derivatives of glutamic acid are described in more detail hereunder.

- the aspartates, such as the mixture of triethanolamine N-lauroyl aspartate/triethanolamine N-myristoyl aspartate marketed under the name ASPARACK[®]
25 by the company Mitsubishi.

- the derivatives of glycine (glycinates), such as sodium N-cocoyl glycinate marketed under the names AMILITE GCS-12[®] and AMILITE GCK 12 by the company Ajinomoto.

30 - the citrates such as the citric mono-ester of ethoxylated (9 mol) coconut alcohols, marketed under the name WITCONOL EC 1129 by the company Goldschmidt.

- the galacturonates such as the dodecyl D-galactoside sodium uronate marketed by the company Soliance.

4) As sulphonates, we may mention for example the alpha-olefin sulphonates such as the alpha-olefin sodium sulphonate (C₁₄₋₁₆) marketed under the name BIO-TERGE AS-40[®] by the company Stepan, marketed under the names WITCONATE AOS PROTEGE[®] and SULPHRAMINE AOS PH 12[®] by the company Witco or marketed under the name BIO-TERGE AS-40 CG[®] by the company Stepan, the secondary olefin sodium sulphonate marketed under the name HOSTAPUR SAS 30[®] by the company Clariant;

5) As isethionates, we may mention the acylisethionates such as sodium cocoyl-isethionate, such as the product marketed under the name JORDAPON CI P[®] by the company Jordan.

6) As taurates, we may mention the sodium salt of methyltaurate of cabbage palm oil marketed under the name HOSTAPON CT PATE[®] by the company Clariant; the N-acyl N-methyltaurates such as sodium N-cocoyl N-methyltaurate marketed under the name HOSTAPON LT-SF[®] by the company Clariant or marketed under the name NIKKOL CMT-30-T[®] by the company Nikkol, sodium palmitoyl methyltaurate marketed under the name NIKKOL PMT[®] by the company Nikkol.

7) As sulphosuccinates, we may mention for example the ethoxylated (3 EO) mono-sulphosuccinate of lauryl alcohol (C₁₂/C₁₄ 70/30) marketed under the names SETACIN 103 SPECIAL[®], REWOPOL SB-FA 30 K 4[®] by the company Witco, the disodium salt of a hemi-sulphosuccinate of C₁₂-C₁₄ alcohols, marketed under the name SETACIN F SPECIAL PASTE[®] by the company Zschimmer Schwarz, the ethoxylated (2 EO) disodium oleamid sulphosuccinate marketed under the name STANDAPOL SH 135[®] by the company Henkel, the ethoxylated (5 EO) lauric amide mono-sulphosuccinate marketed under the name LEBON A-5000[®] by the company Sanyo, the ethoxylated (10 EO) disodium salt of mono-sulphosuccinate of lauryl citrate marketed under the name REWOPOL SB CS 50[®] by the company Witco, the mono-sulphosuccinate of ricinoleic mono-ethanolamide marketed under the name REWODERM S 1333[®] by the company Witco. It is also possible to use the polydimethylsiloxane sulphosuccinates such as the disodium PEG-12 dimethicone sulphosuccinate marketed under the name MACKANATE-DC30 by the company Mac Intyre.

8) As alkyl sulphoacetate, we may mention for example the mixture of sodium lauryl sulphoacetate, disodium lauryl ether sulphosuccinate, marketed under the name STEPAN-MILD LSB by the company Stepan.

9) As phosphates and alkylphosphates, we may mention for example the
5 monoalkyl phosphates and the dialkyl phosphates, such as the lauryl monophosphate marketed under the name MAP 20[®] by the company Kao Chemicals, the potassium salt of dodecyl-phosphoric acid, mixture of mono- and di-ester (mainly diester) marketed under the name CRAFOL AP-31[®] by the company Cognis, the mixture of monoester and diester of octylphosphoric acid, marketed under the name CRAFOL AP-20[®] by the company
10 Cognis, the mixture of monoester and diester of phosphoric acid of ethoxylated (7 mol of EO) 2-butyloctanol, marketed under the name ISOFOL 12 7 EO-PHOSPHATE ESTER[®] by the company Condea, the potassium salt or triethanolamine salt of mono-alkyl (C₁₂-C₁₃) phosphate marketed under the references ARLATONE MAP 230K-40[®] and ARLATONE MAP 230T-60[®] by the company Uniqema, the potassium lauryl phosphate
15 marketed under the name DERMALCARE MAP XC-99/09[®] by the company Rhodia Chimie, and the potassium cetylphosphate marketed under the name ARLATONE MAP 160K by the company Uniqema.

10) The polypeptides are obtained for example by condensation of a fatty chain on the amino acids from cereal and notably from wheat and oat. As polypeptides, we
20 may mention for example the potassium salt of hydrolysed lauroyl wheat protein, marketed under the name AMINOFOAM W OR by the company Croda, the triethanolamine salt of hydrolysed cocoyl soya protein, marketed under the name MAY-TEIN SY by the company Maybrook, the sodium salt of lauroyl amino-acids from oat, marketed under the name PROTEOL OAT by the company Seppic, the collagen
25 hydrolysate grafted on copra fatty acid, marketed under the name GELIDERM 3000 by the company Deutsche Gelatine, the soya proteins acylated by hydrogenated copra acids, marketed under the name PROTEOL VS 22 by the company Seppic.

11) As metal salts of C₁₀-C₃₀, notably C₁₂-C₂₀, fatty acids, we may mention in particular the metal stearates, such as sodium stearate and potassium stearate, as well as
30 the polyhydroxy stearates.

According to a particular embodiment, a composition of the invention can comprise one or more surfactant(s) with HLB greater than or equal to 12, present in free

form in the composition, selected from the derivatives of glutamic acid and/or salts thereof, alkylpolyglycosides, sodium stearate, potassium stearate, and mixtures thereof.

According to yet another particular embodiment, a composition of the invention comprises a combination of at least one derivative of glutamic acid and/or a salt thereof and at least one alkylpolyglycoside, notably as described below.

DERIVATIVE OF GLUTAMIC ACID

The salt and/or derivative of glutamic acid can be selected for example from the acyl glutamic acids (INCI name), their salts (glutamates) and mixtures thereof, preferably from the acyl glutamic acids whose acyl group has from 10 to 30 carbon atoms, preferably from 12 to 22 carbon atoms, such as for example the lauroyl glutamic, myristoyl glutamic, palmitoyl glutamic, stearoyl glutamic, behenoyl glutamic, olivoyl glutamic, cocoyl glutamic acids and the salts of alkali metals such as Na, Li, K, preferably Na or K, the salts of alkaline earth metals such as Mg or the ammonium salts of said acids.

We may notably mention the compounds with the INCI names lauroyl glutamic acid, cocoyl glutamic acid, sodium stearoyl glutamate, potassium lauroyl glutamate, potassium cocoyl glutamate, sodium olivoyl glutamate and mixtures thereof.

Said compounds are marketed under the name AMISOFT by the company AJINOMOTO and notably under the references Amisoft CA, Amisoft LA, Amisoft HS 11 PF, Amisoft MK-11, Amisoft LK-11, Amisoft CK-11, or are also marketed by the company Keminova Italiana SRL.

As salt of derivative of glutamic acid, we may also mention disodium hydrogenated tallow glutamate such as that marketed under the reference Amisoft HS-21 by the company AJINOMOTO.

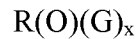
We may also mention the commercial mixtures of surfactants comprising at least one derivative of glutamic acid or a salt of said derivative, for example the mixture of salts of acyl glutamates such as Amisoft LS-22 marketed by AJINOMOTO.

According to a particular embodiment, the monosodium salt of n-stearoyl-L-glutamic acid is used, more particularly that marketed by the company AJINOMOTO under the reference Amisoft HS 11.

ALKYLPOLYGLYCOSIDE

In the sense of the present invention, "alkylpolyglycoside" means an alkylmonosaccharide (degree of polymerization 1) or alkylpolysaccharide (degree of polymerization greater than 1).

5 The alkylpolyglycosides can be used alone or as mixtures of several alkylpolyglycosides. They generally correspond to the following structure:



in which the radical R is a linear or branched C₁₂-C₂₂ alkyl radical, G is a saccharide residue and x varies from 1 to 5, preferably from 1.05 to 2.5 and more preferably from 1.1 to 2.

10 The saccharide residue can be selected from glucose, dextrose, sucrose, fructose, galactose, maltose, maltotriose, lactose, cellobiose, mannose, ribose, dextran, talose, allose, xylose, levoglucan, cellulose or starch. More preferably, the saccharide residue denotes glucose.

15 It should moreover be noted that each unit of the polysaccharide moiety of the alkylpolyglycoside can be in α or β isomeric form, in the L or D form and the configuration of the saccharide residue can be of furanoside or pyranoside type.

It is of course possible to use mixtures of alkylpolysaccharides, which may differ from one another by the nature of the alkyl unit borne and/or the nature of the polysaccharide chain bearing it.

20 According to a particular embodiment of the invention, the alkylpolyglycoside can be used mixed with at least one fatty alcohol, notably a fatty alcohol having from 10 to 30 carbon atoms, and more particularly from 12 to 22 carbon atoms, as described hereunder in the paragraph "co-surfactants".

25 Moreover, combined use of a fatty alcohol and an alkylpolyglycoside whose alkyl moiety is identical to that of the fatty alcohol employed, is particularly advantageous according to the present invention.

30 The fatty alcohol/alkylpolyglycoside emulsifying mixtures as defined above are known *per se*. They are described notably in applications WO 92/06778, WO 95/13863 and WO 98/47610 and are prepared according to the methods of preparation stated in these documents.

Among the fatty alcohol/alkylpolyglycoside mixtures that are particularly preferred, we may mention the products sold by the company SEPPIC under the designations MONTANOV[®] such as the following mixtures:

- Cetylstearyl alcohol/Cocoglucoside - MONTANOV 82[®]

5 - Arachidyl alcohol and behenyl alcohol/arachidylglucoside - MONTANOV 802[®]

- Myristyl alcohol/myristylglucoside - MONTANOV 14[®]

- Cetylstearyl alcohol/cetylstearylglucoside - MONTANOV 68[®]

- C₁₄-C₂₂ alcohol/C₁₂-C₂₀ alkylglucoside - MONTANOV L[®]

10 - Cocoalcohol/Coco-glucoside - MONTANOV S[®]

- Isostearyl alcohol/Isostearylglucoside - MONTANOV WO 18[®].

According to a particular embodiment, the alkylpolyglycoside employed in a composition according to the invention is cetylstearyl glucoside. It is used advantageously in the form of a mixture with cetylstearyl alcohol, also called cetearyl alcohol.

15 According to a particular embodiment of the invention, the cetylstearyl alcohol/cetylstearylglucoside mixture is used, marketed by the company SEPPIC under the name MONTANOV 68[®], constituted of about 20% of cetylstearyl glucoside and about 80% of cetylstearyl alcohol.

20 According to a particular embodiment, a composition according to the invention comprises a combination of monosodium salt of n-stearoyl-L-glutamic acid, more particularly that marketed by the company AJINOMOTO under the reference Amisoft HS 11, with a mixture of cetylstearyl alcohol/cetylstearyl glucoside, more particularly that marketed by the company SEPPIC under the name MONTANOV 68[®].

25

Co-surfactants

According to a particular embodiment, the compositions according to the invention can additionally comprise at least one co-surfactant.

30 The co-surfactants can notably be selected from the fatty alcohols, preferably comprising from 10 to 30 carbon atoms. "Fatty alcohol comprising from

10 to 30 carbon atoms" means any saturated or unsaturated, linear or branched pure fatty alcohol, having from 10 to 30 carbon atoms.

As examples of fatty alcohols that can be used in combination with the alkylpolyglycoside(s) of the emulsifying system according to the invention, we may
5 mention the linear or branched fatty alcohols, of synthetic or of natural origin, for example the alcohols derived from vegetable matter (copra, cabbage palm, palm etc.) or animal matter (tallow etc.). Of course, other long-chain alcohols can also be used, for example the ether alcohols or the so-called Guerbet alcohols. Finally, it is also possible to use certain fractions of varying length from alcohols of natural origin, for example coconut (C₁₂ to
10 C₁₆) or tallow (C₁₆ to C₁₈) or compounds of the diol or cholesterol type.

Preferably a fatty alcohol comprising from 10 to 26 carbon atoms, preferably from 10 to 24 carbon atoms, and more preferably from 12 to 22 carbon atoms, is used.

As particular examples of fatty alcohols for use within the scope of the present invention, we may notably mention the lauric, myristic, cetyl, stearyl, isostearyl, palmitic,
15 oleic, cetearyl (mixture of cetyl and stearyl alcohol), behenic, erucic, arachidyl alcohols and mixtures thereof. Cetearyl alcohol is preferably used.

Said fatty alcohols are notably marketed under the name NAFOL by the company SASOL.

As described previously, these fatty alcohols can be employed jointly with the
20 alkylpolyglycoside(s) when it/they is/are present in a composition according to the invention, in commercially available fatty alcohol/alkylpolyglycoside mixtures, for example the mixture of cetylstearyl alcohol and cetylstearylglucoside sold by the company SEPPIC, under the reference MONTANOV 68[®].

25 Among the co-surfactants usable according to the invention, we may also mention glyceryl mono- and/or distearate.

The co-surfactant or co-surfactants can be present in a content ranging from 0.05 to 15 wt.%, preferably from 0.1 to 10 wt.%, and more preferably from 1 to 5 wt.% relative to the total weight of the composition.

The total content of surfactants and co-surfactants in a composition of the invention or content of emulsifying system can range from 0.05 to 15 wt.% relative to the total weight of the composition, preferably from 0.1 to 10 wt.%.

According to a particular embodiment, the emulsifying system of a composition according to the invention comprises at least one anionic surfactant.

According to a particular embodiment, the content of anionic surfactants present in free form in a composition of the invention can range from 0.05 to 5 wt.%, preferably from 0.1 to 3 wt.%, and more preferably from 0.2 to 2 wt.%, relative to the total weight of the composition.

According to a particular embodiment, the emulsifying system of a composition of the invention comprises a combination of a derivative and/or salt of glutamic acid, an alkylpolyglycoside and optionally glyceryl mono- and/or distearate.

According to another variant embodiment of the invention, the emulsifying system of a composition of the invention comprises glyceryl mono- and/or distearate, sodium stearate and/or potassium stearate.

PIGMENTS

"Pigments" are to be understood as white or coloured, mineral or organic particles, insoluble in an aqueous medium, intended for colouring and/or opacifying the composition and/or the resultant film.

All of the pigments described below can be coated with at least one lipophilic or hydrophobic compound, the coating process being as described below.

The pigments can be white or coloured, mineral and/or organic.

The pigment can be an organic pigment. "Organic pigment" means any pigment that complies with the definition in the chapter on organic pigments in Ullmann's encyclopaedia. The organic pigment can notably be selected from the nitroso, nitro, azo, xanthene, quinoline, anthraquinone, phthalocyanine, of metal complex type, isoindolinone, isoindoline, quinacridone, perinone, perylene, diketopyrrolopyrrole, thioindigo, dioxazine, triphenylmethane, quinophthalone compounds.

The organic pigment or pigments can be selected for example from carmine, carbon black, aniline black, melanin, yellow azo, quinacridone, phthalocyanine blue,

sorghum red, the blue pigments codified in the Color Index under the references CI 42090, 69800, 69825, 73000, 74100, 74160, the yellow pigments codified in the Color Index under the references CI 11680, 11710, 15985, 19140, 20040, 21100, 21108, 47000, 47005, the green pigments codified in the Color Index under the references CI 61565, 61570, 74260, the orange pigments codified in the Color Index under the references CI 11725, 15510, 45370, 71105, the red pigments codified in the Color Index under the references CI 12085, 12120, 12370, 12420, 12490, 14700, 15525, 15580, 15620, 15630, 15800, 15850, 15865, 15880, 17200, 26100, 45380, 45410, 58000, 73360, 73915, 75470, the pigments obtained by oxidizing polymerization of indol and phenol derivatives such as are described in patent FR 2 679 771.

These pigments can also be in the form of composite pigments such as are described in patent EP 1 184 426. These composite pigments can be composed notably of particles having an inorganic core covered at least partially with an organic pigment and at least one binder ensuring fixation of the organic pigments on the core.

The pigment can also be a lake. "Lake" denotes colours that have been made insoluble, adsorbed on insoluble particles, the whole thus obtained remaining insoluble during use.

The inorganic substrates on which the colours are adsorbed are for example alumina, silica, calcium-sodium borosilicate or calcium-aluminium borosilicate, and aluminium.

Among the organic colours, we may mention the lake carmine. We may also mention the products known by the following names: D & C Red 21 (CI 45 380), D & C Orange 5 (CI 45 370), D & C Red 27 (CI 45 410), D & C Orange 10 (CI 45 425), D & C Red 3 (CI 45 430), D & C Red 4 (CI 15 510), D & C Red 33 (CI 17 200), D & C Yellow 5 (CI 19 140), D & C Yellow 6 (CI 15 985), D & C Green (CI 61 570), D & C Yellow 1 O (CI 77 002), D & C Green 3 (CI 42 053), D & C Blue 1 (CI 42 090).

As examples of lakes, we may mention the product known by the following name: D & C Red 7 (CI 15 850:1).

The pigment can be a mineral pigment. "Mineral pigment" means any pigment that complies with the definition in the chapter on inorganic pigments in Ullmann's encyclopaedia. We may mention, among the mineral pigments that can be used in the

present invention, the oxides of zirconium or of cerium, as well as the oxides of zinc, of iron (black, yellow or red) or of chromium, manganese violet, ultramarine blue, chromium hydrate and ferric blue, titanium dioxide, metal powders such as aluminium powder and copper powder. The following mineral pigments can also be used: Ta₂O₅, Ti₃O₅, Ti₂O₃,
5 TiO, ZrO₂ mixed with TiO₂, ZrO₂, Nb₂O₅, CeO₂, ZnS.

The particle size of the pigment for use within the scope of the present invention is generally between 10 nm and 10 µm, preferably between 20 nm and 5 µm, and more preferably between 30 nm and 1 µm.

Within the scope of the invention, the pigments as described previously can be
10 coated. The coating of these pigments is as described below.

According to a particular embodiment, the coated pigments used according to the invention are selected from the mineral pigments, and in particular iron oxide and/or titanium dioxide.

As an example, we may mention more particularly the pigment constituted of
15 titanium dioxide and iron oxide marketed by the company MIYOSHI KASEI under the reference NAI.

COATING OF THE PIGMENT

The composition according to the invention comprises at least one pigment
20 coated with at least one lipophilic compound.

The coating can also comprise at least one additional non-lipophilic compound.

In the sense of the invention, "coating" of a pigment according to the invention generally denotes the complete or partial surface treatment of the pigment with a surface
25 agent, absorbed, adsorbed or grafted on said pigment.

The surface-treated pigments can be prepared according to techniques of surface treatment of a chemical, electronic, mechanical-chemical or mechanical nature that are well known by a person skilled in the art. Commercial products can also be used.

The surface agent can be absorbed, adsorbed or grafted on the pigments by
30 solvent evaporation, chemical reaction and creation of a covalent bond.

According to one variant, the surface treatment consists of coating solid particles.

The coating can represent from 0.1 to 20 wt.%, and in particular from 0.5 to 5 wt.% of the total weight of the coated pigment.

Coating can be carried out for example by adsorption of a liquid surface agent to the surface of the solid particles by simple mixing of the particles and of said surface agent, with stirring, optionally hot, prior to incorporating the particles in the other ingredients of the make-up or care composition.

Coating can be carried out for example by chemical reaction of a surface agent with the surface of the solid particles of pigment and creation of a covalent bond between the surface agent and the particles. This method is notably described in patent US 4,578,266.

The chemical surface treatment can consist of diluting the surface agent in a volatile solvent, dispersing the pigments in this mixture, then slowly evaporating the volatile solvent, so that the surface agent is deposited on the surface of the pigments.

Agent for lipophilic or hydrophobic treatment

When the pigment includes a lipophilic coating, the latter is present in the oil phase of the composition according to the invention.

According to a particular embodiment of the invention, the pigments can be coated according to the invention with at least one compound selected from siliconized surface agents; fluorinated surface agents; fluorosilicone surface agents; metal soaps, N-acylated amino acids or salts thereof; lecithin and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; fatty esters; phospholipids, and mixtures thereof.

According to a particular embodiment of the invention, fatty esters are different from castor oil.

Advantageously, the pigments can be coated according to the invention with at least one compound selected from fluorinated surface agents; fluorosilicone surface agents; metal soaps, N-acylated amino acids or salts thereof; lecithin and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; fatty esters except castor oil; phospholipids, and mixtures thereof.

More particularly, the pigments can be coated according to the invention with at least one compound selected from fluorinated surface agents; fluorosilicone surface

agents; metal soaps, N-acylated amino acids or salts thereof; lecithin and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; phospholipids, and mixtures thereof.

5 ***Siliconized surface agent***

According to a particular embodiment, the pigments can be surface-treated completely or partially with a compound of a silicone nature.

The siliconized surface agents can be selected from organopolysiloxanes, derivatives of silanes, silicone-acrylate copolymers, silicone resins, and mixtures thereof.

10 "Organopolysiloxane compound" means a compound having a structure comprising alternating silicon atoms and oxygen atoms and comprising organic radicals bound to the silicon atoms.

i) Non-elastomeric organopolysiloxane

15 As non-elastomeric organopolysiloxanes, we may notably mention the polydimethylsiloxanes, the polymethylhydrogenosiloxanes and the polyalkoxydimethylsiloxanes.

The alkoxy group can be represented by the radical R-O- such that R represents methyl, ethyl, propyl, butyl or octyl, 2-phenylethyl, 2-phenylpropyl or
20 3,3,3-trifluoropropyl radicals, aryl radicals such as phenyl, tolyl, xylyl, or substituted aryl radicals such as phenylethyl.

One method for surface treatment of the pigments with a polymethylhydrogenosiloxane consists of dispersing the pigments in an organic solvent, then adding the silicone compound. On heating the mixture, covalent bonds are created
25 between the silicone compound and the surface of the pigment.

According to a preferred embodiment, the siliconized surface agent can be a non-elastomeric organopolysiloxane, notably selected from the polydimethylsiloxanes.

ii) Alkylsilanes and alkoxysilanes

30 Silanes with alkoxy functionality are notably described by Witucki in "A silane primer, Chemistry and applications of alkoxy silanes, Journal of Coatings Technology, 65, 822, pages 57-60, 1993".

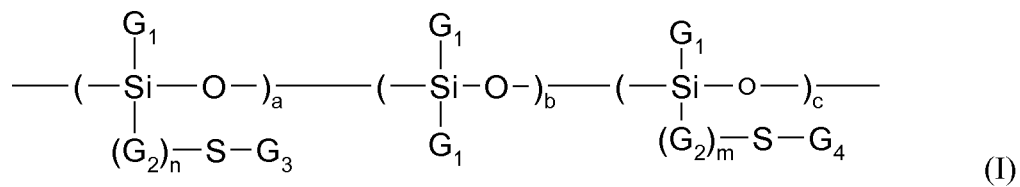
Alkoxysilanes such as the alkyltriethoxysilanes and the alkyltrimethoxysilanes marketed under the references Silquest A-137 (OSI Specialities) and Prosil 9202 (PCR) can be used for coating the pigments.

The use of alkylpolysiloxanes having a reactive end group such as alkoxy, hydroxy, halogen, amino or imino is described in application JP H07-196946. They are also suitable for the treatment of pigments.

iii) Silicone-acrylate polymers

Grafted silicone-acrylic polymers having a silicone backbone such as described in patents US 5,725,882, US 5,209,924, US 4,972,037, US 4,981,903, US 4,981,902, US 5,468,477, and in patents US 5,219,560 and EP 0 388 582, can be used.

Other possible silicone-acrylate polymers are silicone polymers whose structure includes the unit with the following formula (I):



in which the radicals G_1 , which may be identical or different, represent hydrogen or a $\text{C}_1\text{-C}_{10}$ alkyl radical or a phenyl radical; the radicals G_2 , which may be identical or different, represent a $\text{C}_1\text{-C}_{10}$ alkylene group; G_3 represents a polymer residue resulting from the (homo)polymerization of at least one ethylenically unsaturated anionic monomer; G_4 represents a polymer residue resulting from the (homo)polymerization of at least one ethylenically unsaturated hydrophobic monomer; m and n are equal to 0 or 1; "a" is an integer in the range from 0 to 50; b is an integer which can be between 10 and 350, c is an integer in the range from 0 to 50; provided that one of the parameters "a" and c is different from 0.

Preferably, the unit of formula (I) above has at least one, and more preferably all, of the following characteristics:

- the radicals G_1 denote an alkyl radical, preferably the methyl radical;
- n is not zero, and the radicals G_2 represent a divalent $\text{C}_1\text{-C}_3$ radical, preferably a propylene radical;
- G_3 represents a polymer radical resulting from the (homo)polymerization of at least one monomer of the ethylenically unsaturated carboxylic acid type, preferably

acrylic acid and/or methacrylic acid;

- G_4 represents a polymer radical resulting from the (homo)polymerization of at least one monomer of the alkyl(C_1 - C_{10}) (meth)acrylate type, preferably of the isobutyl or methyl (meth)acrylate type.

5 Examples of silicone polymers corresponding to formula (I) are notably polydimethylsiloxanes (PDMS) on which are grafted, by means of a linking group of the thiopropylene type, mixed polymer units of the poly(meth)acrylic acid type and of the polymethyl (meth)acrylate type.

10 Other examples of silicone polymers corresponding to formula (I) are notably polydimethylsiloxanes (PDMS) on which are grafted, by means of a linking group of the thiopropylene type, polymer units of the polyisobutyl (meth)acrylate type.

iv) Silicone resins

The siliconized surface agent can be selected from the silicone resins.

15 "Resin" means a three-dimensional structure.

The silicone resins can be soluble or swellable in silicone oils. These resins are crosslinked polyorganosiloxane polymers.

20 The nomenclature of the silicone resins is known by the name "MDTQ", the resin being described according to the various siloxane monomer units that it includes, each of the letters "MDTQ" characterizing a type of unit.

The letter M represents the monofunctional unit of formula $(CH_3)_3SiO_{1/2}$, the silicon atom being joined to a single oxygen atom in the polymer comprising this unit.

The letter D denotes a bifunctional unit $(CH_3)_2SiO_{2/2}$, in which the silicon atom is joined to two oxygen atoms.

25 The letter T represents a trifunctional unit of formula $(CH_3)SiO_{3/2}$.

In the units M, D, T defined above, at least one of the methyl groups can be substituted with a group R different from the methyl group such as a hydrocarbon (notably alkyl) radical having from 2 to 10 carbon atoms or a phenyl group or else a hydroxyl group.

30 Finally, the letter Q denotes a tetrafunctional unit $SiO_{4/2}$, in which the silicon atom is bound to four oxygen atoms which in their turn are bound to the polymer residue.

Various resins with different properties can be obtained from these various units, the properties of said polymers varying depending on the type of monomers (or units), the type and number of radicals substituted, the length of the polymer chain, the degree of branching and the size of the pendant chains.

5 As examples of these silicone resins, we may mention:

- the siloxysilicates, which can be trimethylsiloxysilicates of formula $[(\text{CH}_3)_3\text{SiO}]_x(\text{SiO}_{4/2})_y$ (units MQ) in which x and y are integers in the range from 50 to 80,

- the polysilsesquioxanes of formula $(\text{CH}_3\text{SiO}_{3/2})_x$ (units T) in which x is greater than 100 and where at least one of the methyl radicals can be substituted with a group R as defined above,

10

- the polymethylsilsesquioxanes, which are polysilsesquioxanes in which none of the methyl radicals is substituted with another group. Said polymethylsilsesquioxanes are described in document US 5,246,694, the contents of which are incorporated by reference.

15 As examples of polymethylsilsesquioxane resins that are commercially available, we may mention those that are marketed:

- by the company Wacker under the reference Resin MK such as Belsil PMS MK: polymer comprising $\text{CH}_3\text{SiO}_{3/2}$ repeating units (units T), which can also comprise up to 1 wt.% of $(\text{CH}_3)_2\text{SiO}_{2/2}$ units (units D) and have an average molecular weight of about

20 10000,

- by the company SHIN-ETSU under the references KR-220L, which are composed of units T of formula $\text{CH}_3\text{SiO}_{3/2}$ and have Si-OH end groups (silanol), under the reference KR-242A which comprise 98% of units T and 2% of dimethyl units D and have Si-OH end groups or under the reference KR-251 comprising 88% of units T and 12% of dimethyl units D and have Si-OH end groups.

25

As siloxysilicate resins, we may mention the trimethylsiloxysilicate (TMS) resins, optionally in the form of powders. Said resins are marketed under the references SR1000, .E. 1 170-002 or SS 4230, by the company GENERAL ELECTRIC or under the references TMS 803, WACKER 803 and 804 by the company WACKER SILICONE

30 CORPORATION.

We may also mention the trimethylsiloxysilicate resins marketed in a solvent such as cyclomethicone, sold under the name "KF-7312J" by the company Shin-Etsu, "DC 749", "DC 593" by the company Dow Corning.

5 As examples of commercial references of pigments treated with a silicone compound, we may mention:

- the red iron oxide/dimethicone sold under the reference SA-C 338075 - 10 by the company Miyoshi Kasei, and

- a pigment obtained by treatment of DC Red 7 with a silicone compound,
10 marketed by the company Coletica under the reference Gransil GCM (which is a mixture of D5 and of polysilicone 11).

Fluorinated surface agent

The pigments can be surface-treated completely or partially with a compound
15 of fluorinated nature.

The fluorinated surface agents can be selected from perfluoroalkyl phosphates, perfluoropolyethers, polytetrafluoropolyethylene (PTFE), perfluoroalkanes, perfluoroalkyl silazanes, polyoxides of hexafluoropropylene, polyorganosiloxanes comprising perfluoroalkyl perfluoropolyether groups.

20 "Perfluoroalkyl radical" means an alkyl radical in which all the hydrogen atoms have been replaced with fluorine atoms.

The perfluoropolyethers are notably described in patent application EP-A-486135, and sold under the trade names FOMBLIN by the company MONTEFLUOS.

Perfluoroalkyl phosphates are in particular described in application JP H05-
25 86984. The perfluoroalkyl diethanolamine phosphates marketed by Asahi Glass under the reference AsahiGuard AG530 can be used.

Among the linear perfluoroalkanes, we may mention the perfluorocycloalkanes, the perfluoro(alkylcycloalkanes), the perfluoropolycycloalkanes, the perfluorinated aromatic hydrocarbons (perfluoroarenes) and the organic perfluorinated
30 hydrocarbon compounds having at least one heteroatom.

Among the perfluoroalkanes, we may mention the linear alkane series such as perfluorooctane, perfluorononane or perfluorodecane.

Among the perfluorocycloalkanes and the perfluoro(alkylcycloalkanes), we may mention the perfluorodecaline sold under the name of "FLUTEC PP5 GMP" by the company RHODIA, perfluoro(methyldecaline), perfluoro(C3-C5 alkyl-cyclohexanes) such as perfluoro(butylcyclohexane).

5 Among the perfluoropolycycloalkanes we may mention the derivatives of bicyclo [3.3.1] nonane such as perfluorotrimethylbicyclo [3.3.1] nonane, the derivatives of adamantane such as perfluorodimethyladamantane and the perfluorinated derivatives of hydrogenated phenanthrene such as tetracosafuoro-tetradecahydrophenanthrene.

10 Among the perfluoroarenes, we may mention the perfluorinated derivatives of naphthalene such as perfluoronaphthalene and perfluoromethyl-1-naphthalene.

As examples of commercial references of pigments treated with a fluorinated compound, we may mention:

- the yellow iron oxide/perfluoroalkyl phosphate sold under the reference PF 5
- 15 Yellow 601 by the company Daito Kasei,
- the red iron oxide/perfluoroalkyl phosphate sold under the reference PF 5
- Red R 516L by the company Daito Kasei,
- the black iron oxide/perfluoroalkyl phosphate sold under the reference
- PF 5 Black BL 100 by the company Daito Kasei,
- 20 - the titanium dioxide/perfluoroalkyl phosphate sold under the reference PF 5
- TiO₂ CR 50 by the company Daito Kasei,
- the yellow iron oxide/perfluoropolymethylisopropyl ether sold under the
- reference Iron oxide yellow BF-25-3 by the company Toshiki,
- the DC Red 7/perfluoropolymethylisopropyl ether sold under the reference
- 25 D&C Red 7 FHC by the company Cardre Inc.,
- the DC Red 6/PTFE sold under the reference T 9506 by the company
- Warner – Jenkinson.

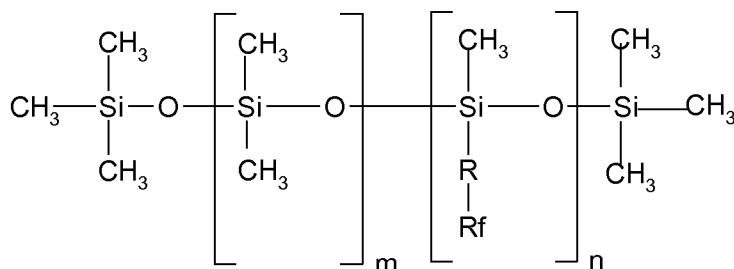
Fluorosilicone surface agent

30 The pigments can be surface-treated completely or partially with a compound of fluorosilicone nature.

The fluorosilicone compound can be selected from perfluoroalkyl dimethicones, perfluoroalkyl silanes and perfluoroalkyl trialkoxysilanes.

We may mention, as perfluoroalkyl silanes, the products LP-IT and LP-4T marketed by Shin-Etsu Silicone.

5 The perfluoroalkyl dimethicones can be represented by the following formula:



in which:

- R represents a linear or branched divalent alkyl group, having 1 to 6 carbon atoms, preferably a divalent methyl, ethyl, propyl or butyl group,

10 - Rf represents a perfluoroalkyl radical, having 1 to 9 carbon atoms, preferably 1 to 4 carbon atoms,

- m is selected from 0 to 150, preferably from 20 to 100, and

- n is selected from 1 to 300, preferably from 1 to 100.

15 As examples of commercial references of pigment treated with a fluorosilicone compound, we may mention the titanium dioxide/fluorosilicone sold under the reference Fluorosil Titanium dioxide 100TA by the company Advanced Dermaceuticals International Inc.

Other lipophilic surface agents

20 The hydrophobic treatment agent can also be selected from:

- the metal soaps, such as aluminium dimyristate, the aluminium salt of hydrogenated tallow glutamate.

As metal soaps, we may notably mention the metal soaps of fatty acids having from 12 to 22 carbon atoms, and in particular those having from
25 12 to 18 carbon atoms.

The metal of the metal soap can notably be zinc or magnesium. Zinc laurate, magnesium stearate, magnesium myristate, zinc stearate, and mixtures thereof, can be used as metal soap.

The fatty acid can notably be selected from lauric acid, myristic acid, stearic acid, palmitic acid.

- the N-acylated amino acids or salts thereof which can comprise an acyl group having from 8 to 22 carbon atoms, for example a 2-ethyl hexanoyl, caproyl, lauroyl, myristoyl, palmitoyl, stearyl, cocoyl group.

The amino acid can be for example lysine, glutamic acid or alanine.

The salts of these compounds can be the salts of aluminium, of magnesium, of calcium, of zirconium, of zinc, of sodium, of potassium.

Thus, according to a particularly preferred embodiment, a derivative of N-acylated amino acid can notably be a derivative of glutamic acid and/or a salt thereof, and more particularly a stearyl glutamate, for example aluminium stearyl glutamate.

- lecithin and its derivatives,

- triisostearyl isopropyl titanate.

As examples of pigments treated with isopropyl titanium triisostearate (ITT), we may mention those sold under the commercial reference BWBO-I2 (Iron oxide CI77499 and isopropyl titanium triisostearate), BWYO-I2 (Iron oxide CI77492 and isopropyl titanium triisostearate), and BWRO-I2 (Iron oxide CI77491 and isopropyl titanium triisostearate) by the company KOBO.

- isostearyl sebacate,

- natural vegetable or animal waxes or polar synthetic waxes,

- fatty esters, in particular jojoba esters. In a preferred embodiment, fatty esters are different from castor oil.

- phospholipids; and

- mixtures thereof.

The waxes mentioned in the compounds cited previously can be those used generally in the cosmetics field, as defined hereunder.

They can notably be hydrocarbon, silicone and/or fluorinated waxes, optionally comprising ester or hydroxyl functions. They can also be of natural or synthetic origin.

"Polar wax" means a wax containing chemical compounds having at least one polar group. The polar groups are well known by a person skilled in the art; they can for example be alcohol, ester, or carboxylic acid groups. The polar waxes do not include

polyethylene waxes, paraffin waxes, microcrystalline waxes, ozokerite, Fisher-Tropsch waxes.

In particular, the polar waxes have a Hansen mean solubility parameter dA at 25°C such that $dA > 0 \text{ (J/cm}^3\text{)}^{1/2}$ and preferably $dA > 1 \text{ (J/cm}^3\text{)}^{1/2}$.

$$\delta_a = \sqrt{\delta_p^2 + \delta_h^2}$$

where dP and dH are respectively the polar contributions and contributions such as interactions specific to the Hansen solubility parameters.

The definition of the solvents in the three-dimensional solubility space according to HANSEN is given in the article of C. M. HANSEN: "The three-dimensional solubility parameters" J. Paint Technol. 39, 105 (1967);

- dH characterizes the forces of specific interactions (of the hydrogen bond, acid/base, donor/acceptor type, etc.);

- dP characterizes the forces of DEBYE interactions between permanent dipoles as well as the forces of KEESOM interactions between induced dipoles and permanent dipoles.

The parameters dP and dH are expressed in $\text{(J/cm}^3\text{)}^{1/2}$.

A polar wax is notably constituted of molecules comprising, in addition to the carbon and hydrogen atoms in their chemical structure, heteroatoms (such as O, N, P).

As a non-limiting illustration of these polar waxes, we may notably mention the natural polar waxes, such as beeswax, lanolin wax, orange peel wax, lemon wax, and Chinese insect waxes; rice bran wax, carnauba wax, candelilla wax, ouricury wax, cork fibre wax, sugarcane wax, Japan wax and sumach wax; montan wax.

The pigments coated according to the invention with at least one lipophilic compound can be present in a composition of the invention in a content ranging from 0.1 to 30 wt.%, relative to the total weight of the composition, preferably from 1 to 15 wt.%.

According to a particular embodiment, the pigments can be coated with at least one compound selected from fluorinated surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; fatty esters; and mixtures thereof.

According to a particular embodiment, the pigments can be coated with at least one compound selected from fluorinated surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; fatty esters except castor oil; and mixtures thereof, and more particularly selected from
5 fluorinated surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; and mixtures thereof.

According to a particularly preferred embodiment, the pigments can be coated with an N-acylated amino acid and/or a salt thereof, in particular with a derivative of glutamic acid and/or a salt thereof, notably a stearyl glutamate, for example, aluminium
10 stearyl glutamate, or with a fatty ester, in particular with a jojoba ester.

As examples of coated pigments according to the invention, we may mention more particularly the following compounds:

- Iron oxide coated with stearyl glutamate, for example marketed by the company MIYOSHI under the reference "NAI-C33-7001-10";
- 15 - Iron oxide coated with jojoba esters, for example marketed by the company KOBO under the reference "BWBO-NJE2"; and
- Titanium dioxide and iron oxide, coated with aluminium stearyl glutamate, for example marketed under the reference NAI by MIYOSHI KASEI.

20 Other colouring agents not surface-treated

The composition of the invention can additionally comprise at least one colorant that has not been surface-treated. The colorant can be selected from the pigments as described previously, not surface-treated with a hydrophobic agent, water-soluble or fat-soluble colorants, naces, special-effect pigments.

25 The water-soluble colorants are for example beetroot juice, methylene blue.

The synthetic or natural fat-soluble colorants are, for example, DC Red 17, DC Red 21, DC Red 27, DC Green 6, DC Yellow 11, DC Violet 2, DC Orange 5, Sudan red, carotenes (β -carotene, lycopene), xanthophylls (capsanthin, capsorubin, lutein), palm oil, Sudan brown, quinoline yellow, annatto, curcumin.

30 "Nacreous pigments" or "naces" are to be understood as coloured particles of any shape, iridescent or not, notably produced in the shell of certain molluscs or alternatively synthesized and that display a colour effect by optical interference.

As examples of nacreous pigments, we may mention white nacreous pigments, for example mica coated with titanium, or with bismuth oxychloride, coloured nacreous pigments such as mica coated with titanium and with iron oxides, mica coated with titanium and notably with ferric blue or chromium oxide, mica coated with titanium and
5 with an organic pigment as defined previously as well as nacreous pigments based on bismuth oxychloride. As examples, we may mention the Cellini pigments marketed by Engelhard (Mica-TiO₂-lake), Prestige marketed by Eckart (Mica-TiO₂), Colorona marketed by Merck (Mica-TiO₂-Fe₂O₃).

10 In addition to nacles on a mica substrate, multilayer pigments can be envisaged, based on synthetic substrates such as alumina, silica, calcium-sodium borosilicate or calcium-aluminium borosilicate, and aluminium.

The colouring agent can also be a special-effect pigment. "Special-effect pigments" means pigments that generally create a coloured appearance (characterized by a certain hue, a certain vividness and a certain brightness) that is non-uniform and changes
15 depending on the conditions of observation (light, temperature, angles of observation, etc.). That is how they differ from the white or coloured pigments, which give a conventional uniform opaque, semi-transparent or transparent hue.

There are two types of special-effect pigments, those with low refractive index such as the fluorescent, photochromic or thermochromic pigments, and those with higher
20 refractive index such as the nacles or glitter.

As special-effect pigments, we may mention the nacreous pigments such as the white nacreous pigments such as mica coated with titanium, or with bismuth oxychloride, the coloured nacreous pigments such as titanium mica with iron oxides, titanium mica notably with ferric blue or chromium oxide, titanium mica with an organic pigment of the
25 aforementioned type as well as the nacreous pigments based on bismuth oxychloride.

We may also mention the interference-effect pigments that are not fixed on a substrate, such as liquid crystals (Helicones HC from Wacker), holographic interference glitter (Geometric Pigments or Spectra f/x from Spectratek). The special-effect pigments also include the fluorescent pigments, whether they are substances that fluoresce in
30 daylight or that produce an ultraviolet fluorescence, phosphorescent pigments, photochromic pigments, thermochromic pigments and quantum dots, marketed for example by the company Quantum Dots Corporation.

Quantum dots are luminescent semiconducting nanoparticles capable of emitting, under light excitation, radiation with a wavelength between 400 nm and 700 nm. These nanoparticles are known from the literature. In particular, they can be manufactured according to the methods described for example in US 6,225,198 or US 5,990,479, in the publications cited there, as well as in the following publications: Dabboussi B.O. et al. "(CdSe)ZnS core-shell quantum dots: synthesis and characterization of a size series of highly luminescent nanocrystallites" Journal of Physical Chemistry B, Vol. 101, 1997, pp 9463-9475, and Peng, Xiaogang et al., "Epitaxial Growth of highly Luminescent CdSe/CdS core/shell nanocrystals with photostability and electronic accessibility" Journal of the American Chemical Society, Vol. 119, No. 30, pp 7019-7029.

The special-effect pigments also include the fluorescent pigments, whether they are substances that fluoresce in daylight or which produce an ultraviolet fluorescence, the phosphorescent pigments, the photochromic pigments, and the thermochromic pigments.

The pigments that have not been surface-treated can be present in the composition at a content of less than 15 wt.%, preferably less than 10 wt.%, and more preferably less than 5 wt.%, relative to the total weight of the composition.

PHYSIOLOGICALLY ACCEPTABLE MEDIUM

The compositions according to the invention can comprise a physiologically acceptable medium, i.e. a non-toxic medium that can be applied on the keratinous materials of humans and has a pleasant appearance, odour and feel.

The physiologically acceptable medium is generally adapted to the nature of the substrate on which the composition is to be applied, as well as to the form in which the composition is to be packaged.

The compositions according to the invention can be in the form of emulsion obtained by dispersion of an oil phase in an aqueous phase and carried out directly or indirectly.

They can be simple emulsions obtained by dispersing an oil phase in an aqueous phase (O/W), or an emulsion of the multiple emulsion type.

According to a particular embodiment, the composition of the invention is in the form of a wax-in-water or oil-in-water emulsion.

The compositions of the invention can be of liquid or semi-liquid consistency of the milk type, or of soft, semi-solid or solid consistency of the cream or gel type.

These compositions are prepared according to the usual methods.

5 **Aqueous phase**

The composition according to the invention can comprise an aqueous phase, which forms the continuous phase.

"Composition with an aqueous continuous phase" means that the composition has a conductivity, measured at 25°C, greater than or equal to 23 $\mu\text{S}/\text{cm}$ (microSiemens/cm), the conductivity being measured for example by means of an
10 MPC227 conductivity meter from Mettler Toledo and an Inlab730 conductivity measuring cell. The measuring cell is immersed in the composition, so as to remove the air bubbles that may form between the 2 electrodes of the cell. The conductivity reading is taken once the value of the conductivity meter has stabilized. An average is obtained from at least 3
15 successive measurements.

The aqueous phase comprises water and/or at least one water-soluble solvent.

"Water-soluble solvent" denotes, in the present invention, a compound that is liquid at room temperature and is miscible with water (miscibility in water greater than 50 wt.% at 25°C and atmospheric pressure).

20 The water-soluble solvents for use in the compositions according to the invention can moreover be volatile.

Among the water-soluble solvents that can be used in the compositions according to the invention, we may notably mention lower monohydric alcohols having from 1 to 5 carbon atoms such as ethanol and isopropanol, glycols having from 2 to 8
25 carbon atoms such as ethylene glycol, propylene glycol, 1,3-butylene glycol and dipropylene glycol, C₃-C₄ ketones and C₂-C₄ aldehydes.

The aqueous phase (water and optionally the water-miscible solvent) is generally present in the composition according to the present application in a content ranging from 1 to 80 wt.%, relative to the total weight of the composition, preferably
30 ranging from 10 to 70 wt.%, and more preferably ranging from 15 to 60 wt.%.

Liquid oil phase

The composition according to the invention can comprise at least one liquid and/or solid oil phase, constituting in particular a dispersed phase in an aqueous continuous phase.

5 The oil phase is generally present in a composition according to the invention in a content ranging from 1 to 50 wt.%, relative to the total weight of the composition, preferably ranging from 2 to 40 wt.%, and more preferably ranging from 5 to 30 wt.%.

The oil phase of a composition according to the invention can notably comprise at least one or more oils or organic solvents.

10 "Oil or organic solvent" means, in the sense of the application, a non-aqueous substance that is liquid at room temperature (25°C) and atmospheric pressure (760 mmHg).

The oil can be selected from the volatile oils and/or the non-volatile oils, and mixtures thereof.

15 The oil or oils can be present in a content ranging from 1 to 50 wt.%, preferably from 5 to 30 wt.% relative to the total weight of the composition.

"Volatile oil" means, in the sense of the invention, an oil that is likely to evaporate in contact with the keratinous materials in less than an hour, at room temperature and atmospheric pressure. The volatile organic solvent or solvents and the
20 volatile oils of the invention are volatile organic solvents and cosmetic oils, liquid at room temperature, having a non-zero vapour pressure, at room temperature and atmospheric pressure, in particular in the range from 0.13 Pa to 40 000 Pa (10^{-3} to 300 mmHg), in particular ranging from 1.3 Pa to 13 000 Pa (0.01 to 100 mmHg), and more particularly ranging from 1.3 Pa to 1300 Pa (0.01 to 10 mmHg).

25 In particular, the volatile oils are selected from the oils having a rate of evaporation greater than or equal to 0.002 mg/cm²/min. The rate of evaporation is measured as follows:

15 g of oil or of the mixture of oils to be tested is placed in a crystallizing pan (diameter: 7 cm) placed on a balance that is in an enclosure of about 0.3 m³ with
30 controlled temperature (25°C) and hygrometry (relative humidity 50%).

The liquid is allowed to evaporate freely, without stirring it, providing ventilation by a fan (speed 2700 rev/min and dimensions 80x80x42 mm, for example

reference 8550 N from PAPST-MOTOREN, the flow corresponds to about 50 m³/hour) arranged in a vertical position above the crystallizing pan containing the solvent, the vanes being directed towards the crystallizing pan and at a distance of 20 cm relative to the bottom of the crystallizing pan.

5 The mass of the oil remaining in the crystallizing pan is measured at regular intervals. The rates of evaporation are expressed in mg of oil evaporated per unit area (cm²) in unit time (minute).

 "Non-volatile oil" means an oil that remains on the keratinous materials at room temperature and atmospheric pressure for at least several hours and notably has a
10 vapour pressure of less than 10⁻³ mmHg (0.13 Pa).

 These oils can be hydrocarbon oils, silicone oils, fluorinated oils, or mixtures thereof.

 "Hydrocarbon oil" means an oil containing mainly hydrogen and carbon atoms and optionally oxygen, nitrogen, sulphur, or phosphorus atoms. The volatile hydrocarbon
15 oils can be selected from the hydrocarbon oils having from 8 to 16 carbon atoms, and notably the C₈-C₁₆ branched alkanes such as the C₈-C₁₆ isoalkanes of petroleum origin (also called isoparaffins) such as isododecane (also called 2,2,4,4,6-pentamethylheptane), isodecane, isohexadecane, and for example the oils sold under the trade names Isopars or Permetyls, the C₈-C₁₆ branched esters, isohexyl neopentanoate, and mixtures thereof.
20 Other volatile hydrocarbon oils such as the petroleum distillates, notably those sold under the name Shell Solt by the company SHELL, can also be used. Preferably, the volatile solvent is selected from the volatile hydrocarbon oils having from 8 to 16 carbon atoms and mixtures thereof.

 As volatile oils, it is also possible to use the volatile silicones, for example the
25 linear or cyclic volatile silicone oils, notably those having a viscosity ≤ 8 centistokes (8.10⁻⁶ m²/s), and notably having from 2 to 7 silicon atoms, these silicones optionally bearing alkyl or alkoxy groups having from 1 to 10 carbon atoms. As volatile silicone oil for use in the invention, we may notably mention octamethyl cyclotetrasiloxane, decamethyl cyclopentasiloxane, dodecamethyl cyclohexasiloxane, heptamethyl
30 hexyltrisiloxane, heptamethyloctyl trisiloxane, hexamethyl disiloxane, octamethyl trisiloxane, decamethyl tetrasiloxane, dodecamethyl pentasiloxane and mixtures thereof.

 Volatile fluorinated solvents such as nonafluoromethoxybutane or

perfluoromethylcyclopentane can also be used.

The composition can also comprise at least one non-volatile oil or organic solvent, notably selected from the non-volatile hydrocarbon oils and/or silicone oils and/or fluorinated oils.

5 As non-volatile hydrocarbon oil, we may notably mention:

- the hydrocarbon oils of vegetable origin such as the triesters of fatty acids and of glycerol whose fatty acids can have chain lengths varying from C₄ to C₂₄, and the latter can be linear or branched, saturated or unsaturated; these oils are notably wheat germ oil, sunflower oil, grapeseed oil, sesame oil, maize oil, apricot oil, castor oil, karite
10 oil, avocado oil, olive oil, soya oil, sweet almond oil, palm oil, colza oil, cotton oil, hazelnut oil, macadamia oil, jojoba oil, alfalfa oil, poppy oil, Chinese okra oil, sesame oil, cucurbit oil, colza oil, blackcurrant oil, evening primrose oil, millet oil, barley oil, quinoa oil, rye oil, safflower oil, candlenut oil, passionflower oil, musk rose oil; or the triglycerides of caprylic/capric acids such as those sold by the company Stéarineries
15 Dubois or those sold under the names Miglyol 810, 812 and 818 by the company Dynamit Nobel,

- synthetic ethers having from 10 to 40 carbon atoms;

- linear or branched hydrocarbons, of mineral or synthetic origin such as petroleum jelly, the polydecenes, hydrogenated polyisobutylene such as Parleam,
20 squalene, and mixtures thereof;

- synthetic esters such as the oils of formula R₁COOR₂ in which R₁ represents the residue of a linear or branched fatty acid having from 1 to 40 carbon atoms and R₂ represents a hydrocarbon chain, notably branched, containing from 1 to 40 carbon atoms provided that R₁ + R₂ is ≥ 10, for example purcelline oil (ketostearyl octanoate), isopropyl
25 myristate, isopropyl palmitate, benzoate of C₁₂ to C₁₅ alcohol, hexyl laurate, diisopropyl adipate, isononyl isononanoate, 2-ethyl-hexyl palmitate, isostearyl isostearate, octanoates, decanoates or ricinoleates of alcohols or of polyalcohols such as propylene glycol dioctanoate; hydroxylated esters such as isostearyl lactate, di-isostearyl malate; and esters of pentaerythritol;

30 - fatty alcohols that are liquid at room temperature, with a branched and/or unsaturated carbon chain having from 12 to 26 carbon atoms such as octyl dodecanol, isostearyl alcohol, oleic alcohol, 2-hexyldecanol, 2-butyloctanol,

2-undecylpentadecanol;

- higher fatty acids such as oleic acid, linoleic acid, linolenic acid;
- carbonates,
- acetals,
- 5 - citrates,
- and mixtures thereof.

The non-volatile silicone oils for use in the composition according to the invention can be non-volatile polydimethylsiloxanes (PDMS), polydimethylsiloxanes bearing alkyl or alkoxy groups, pendant and/or at the end of the silicone chain, groups
10 each having from 2 to 24 carbon atoms, phenylated silicones such as phenyl trimethicones, phenyl dimethicones, phenyl trimethylsiloxy diphenylsiloxanes, diphenyl dimethicones, diphenyl methyl diphenyl trisiloxanes, 2-phenylethyl trimethylsiloxysilicates.

The fluorinated oils for use in the invention are notably fluorosilicone oils, fluorinated polyethers, fluorinated silicones such as described in document EP-A-847752.

Lipophilic structuring agent

The compositions according to the invention can also comprise at least one fat that is solid at room temperature and at atmospheric pressure such as waxes, pasty fats and mixtures thereof.

Waxes

The compositions according to the invention can optionally comprise at least one wax or a mixture of waxes.

In particular, the compositions for foundation according to the invention can
25 be wax-free.

The compositions according to the invention, such as mascaras, can comprise one or more waxes, in a content ranging from 1 to 40 wt.% relative to the total weight of the composition, notably from 2 to 30 wt.%.

According to a particular embodiment, a composition of the invention can
30 notably be in the form of a wax-in-water emulsion, in other words can comprise a dispersion of a wax or mixture of waxes in an aqueous continuous phase.

The wax considered within the scope of the present invention is generally a lipophilic compound, solid at room temperature (25°C), with reversible change of state from solid to liquid, having a melting point greater than or equal to 30°C and which can be up to 120°C, with the exception of the fatty alcohols, as described previously, notably

5 fatty alcohols having from 10 to 30 carbon atoms and notably from 12 to 22 carbon atoms.

On bringing the wax to the liquid state (melting), it is possible to make it miscible with the oils and to form a microscopically homogeneous mixture, but on bringing the temperature of the mixture back to room temperature, there is recrystallization of the wax in the oils of the mixture.

10 In particular, the waxes suitable for the invention can have a melting point above about 45°C, and in particular above 55°C.

The melting point of the wax can be measured using a differential scanning calorimeter (DSC), for example the calorimeter sold under the name DSC 30 by the company METLER.

15 The measurement protocol is as follows:

A sample of 15 mg of product is put in a crucible and is submitted to a first temperature increase from 0°C to 120°C, at a heating rate of 10°C/minute, then it is cooled from 120°C to 0°C at a cooling rate of 10°C/minute and finally it is submitted to a second temperature increase from 0°C to

20 120°C at a heating rate of 5°C/minute. During the second temperature increase, the variation of the difference in power absorbed by the empty crucible and by the crucible containing the sample of product is measured as a function of temperature. The melting point of the compound is the temperature value corresponding to the peak of the curve representing the variation of the difference in power absorbed as a function of

25 temperature.

The waxes for use in the compositions according to the invention are selected from the solid waxes, deformable or non-deformable at room temperature, of animal, vegetable, mineral or synthetic origin, and mixtures thereof.

The hardness of the wax can be in the range from 0.05 MPa to 30 MPa, and

30 preferably in the range from 6 MPa to 15 MPa. The hardness is determined by measuring the compressive force measured at 20°C by means of the texturometer sold under the name TA-TX2i by the company RHEO, equipped with a stainless steel cylinder with a

diameter of 2 mm moving at the measurement speed of 0.1 mm/s, and penetrating into the wax to a penetration depth of 0.3 mm.

The measurement protocol is as follows:

The wax is melted at a temperature equal to the melting point of the wax + 20°C. The molten wax is poured into a container with diameter of 30 mm and depth of 20 mm. The wax is recrystallized at room temperature (25°C) for 24 hours, then the wax is held for at least 1 hour at 20°C before carrying out the hardness measurement. The hardness value is the maximum compressive force measured divided by the area of the cylinder of the texturometer in contact with the wax.

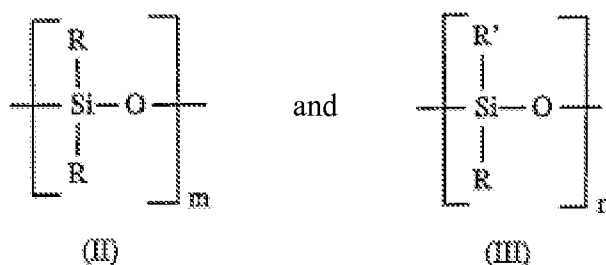
Notably, hydrocarbon waxes can be used, such as beeswax, lanolin wax, and Chinese insect waxes; rice wax, carnauba wax, candelilla wax, ouricury wax, esparto wax, cork fibre wax, sugarcane wax, Japan wax and sumach wax; montan wax, microcrystalline waxes, paraffins and ozokerite; polyethylene waxes, the waxes obtained by Fisher-Tropsch synthesis and waxy copolymers and their esters.

We may also mention the waxes obtained by catalytic hydrogenation of animal or vegetable oils having linear or branched C₈-C₃₂ fatty chains.

Among the latter, we may notably mention hydrogenated jojoba oil, hydrogenated sunflower oil, hydrogenated castor oil, hydrogenated copra oil and hydrogenated lanolin oil, the di-(trimethylol-1,1,1-propane) tetrastearate sold under the name "HEST 2T-4S" by the company HETERENE, the di-(trimethylol-1,1,1-propane) tetrabeheenate sold under the name HEST 2T-4B by the company HETERENE.

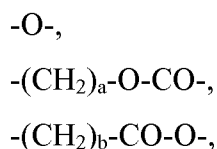
The waxes obtained by transesterification and hydrogenation of vegetable oils, e.g. castor oil or olive oil, such as the waxes sold under the names Phytowax ricin 16L64[®] and 22L73[®] and Phytowax Olive 18L57 by the company SOPHIM, can also be used. Said waxes are described in application FR-A-2792190.

Silicone waxes, which can advantageously be substituted polysiloxanes, preferably with low melting point, can also be used. These are notably linear substituted polysiloxanes constituted essentially (apart from the end groups) of units of formulae II and III, in the respective molar proportions m and n:



in which:

- each substituent R is defined as previously,
- each R' represents, independently, a (linear or branched) alkyl, optionally unsaturated, having 6-30 carbon atoms, or else a group -X-R", each X representing, independently:



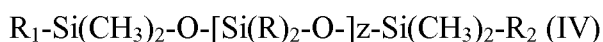
a and b represent, independently, numbers that can vary from 0 to 6, and each R" represents, independently, an alkyl group, optionally unsaturated, having 6 to 30 carbon atoms,

- m is a number that can vary from 0 to 400, and in particular from 0 to 100,
- n is a number that can vary from 1 to 200, and in particular from 1 to 100,

the sum (m + n) being less than 400, and in particular less than or equal to 100.

These silicone waxes are known or can be prepared according to known methods. Among the commercial silicone waxes of this type, we may notably mention those sold under the names Abilwax 9800, 9801 or 9810 (GOLDSCHMIDT), KF910 and KF7002 (SHIN ETSU), or 176-1118-3 and 176-11481 (GENERAL ELECTRIC).

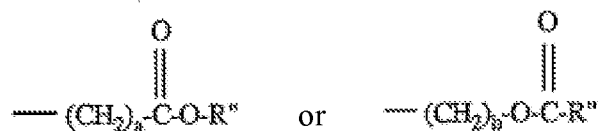
The silicone waxes that can be used can also be selected from the compounds of the following formula (IV):



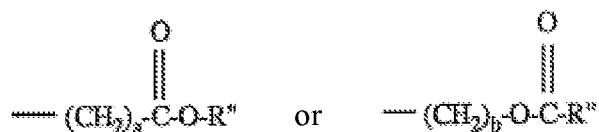
in which:

R is defined as previously,

R₁ represents an alkyl group having from 1 to 30 carbon atoms, an alkoxy group having from 6 to 30 carbon atoms, or a group of formula:



R₂ represents an alkyl group with 6 to 30 carbon atoms, an alkoxy group having from 6 to 30 carbon atoms or a group of formula:



- 5 a and b representing a number from 0 to 6,
 R'' being an alkyl having from 6 to 30 carbon atoms,
 and z is a number that can vary from 1 to 100.

10 Among the silicone waxes of formula (IV), we shall notably mention the alkyl- or alkoxy-dimethicones such as the following commercial products: Abilwax 2428, 2434 and 2440 (GOLDSCHMIDT), or VP 1622 and VP 1621 (WACKER), as well as the (C₂₀-C₆₀) alkyldimethicones, in particular the (C₃₀-C₄₅) alkyldimethicones such as the silicone wax sold under the name SF-1642 by the company GE-Bayer Silicones.

15 Hydrocarbon waxes modified with silicone groups or fluorinated can also be used, for example: siliconyl candelilla, siliconyl beeswax and Fluorobeeswax from Koster Keunen.

The waxes can also be selected from the fluorinated waxes.

20 According to a particular embodiment, the compositions according to the invention can comprise at least one so-called tacky wax, i.e. possessing tack greater than or equal to 0.7 N.s and hardness less than or equal to 3.5 MPa.

The use of a tacky wax can notably enable a cosmetic composition to be obtained that can be applied easily on the eyelashes, which has good adherence to the eyelashes and leads to the formation of a smooth, homogeneous and thickening make-up.

25 The tacky wax used can notably possess tack from 0.7 N.s to 30 N.s, in particular greater than or equal to 1 N.s, notably from 1 N.s to 20 N.s, in particular greater than or equal to 2 N.s, notably from 2 N.s to 10 N.s, and in particular from 2 N.s to 5 N.s.

The tack of the wax is determined by measuring the variation of the force (compressive force or pulling force) as a function of time, at 20°C by means of the

texturometer sold under the name "TA-TX2i[®]" by the company RHEO, equipped with a spindle of acrylic polymer of conical shape forming an angle of 45°.

The measurement protocol is as follows:

5 The wax is melted at a temperature equal to the melting point of the wax + 10°C. The molten wax is poured into a container with diameter of 25 mm and depth of 20 mm. The wax is recrystallized at room temperature (25°C) for 24 hours in such a way that the surface of the wax is flat and smooth, then the wax is held for at least 1 hour at 20°C before measuring the tack.

10 The spindle of the texturometer is moved at a speed of 0.5 mm/s, penetrating into the wax to a penetration depth of 2 mm. When the spindle has penetrated into the wax to a depth of 2 mm, the spindle is held fixed for 1 second (corresponding to the relaxation time) and then is withdrawn at a speed of 0.5 mm/s.

15 During the relaxation time, the force (compressive force) drops sharply to zero and then, during withdrawal of the spindle, the force (pulling force) becomes negative and then increases again towards the value 0. The tack corresponds to the integral of the curve of the force as a function of time for the section of the curve corresponding to the negative values of the force (pulling force). The tack value is expressed in N.s.

20 The tacky wax that can be used generally has a hardness less than or equal to 3.5 MPa, in particular ranging from 0.01 MPa to 3.5 MPa, notably ranging from 0.05 MPa to 3 MPa, or even ranging from 0.1 MPa to 2.5 MPa.

The hardness is measured according to the protocol described previously.

As tacky wax, it is possible to use a C₂₀-C₄₀ alkyl (hydroxystearyloxy)stearate (the alkyl group having from 20 to 40 carbon atoms), alone or mixed, in particular a C₂₀-C₄₀ alkyl 12-(12'-hydroxystearyloxy)stearate.

25 Such a wax is notably sold under the names "Kester Wax K 82 P[®]" and "Kester Wax K 80 P[®]" by the company KOSTER KEUNEN.

The waxes mentioned above generally have an initial melting point below 45°C.

30 The wax or waxes can be present in the form of an aqueous microdispersion of wax. "Aqueous microdispersion of wax" means an aqueous dispersion of wax particles, in which the size, expressed as "effective" volume-average diameter D[4.3], of said wax particles is less than or equal to about 1 µm.

The wax microdispersions are stable dispersions of colloidal particles of wax, and are notably described in "Microemulsions Theory and Practice", L.M. Prince Ed., Academic Press (1977) pages 21-32.

In particular, these wax microdispersions can be obtained by melting the wax in the presence of a surfactant, and optionally some of the water, then progressive addition of hot water with stirring. There is intermediate formation of an emulsion of the water-in-oil type, followed by phase inversion, finally obtaining a microemulsion of the oil-in-water type. On cooling, a stable microdispersion of solid colloidal particles of wax is obtained.

Wax microdispersions can also be obtained by stirring a mixture of wax, of surfactant and of water using stirring means such as ultrasound, the high-pressure homogenizer, or turbines.

The particles of the wax microdispersion preferably have an average size of less than 1 μm (notably ranging from 0.02 μm to 0.99 μm), preferably less than 0.5 μm (notably ranging from 0.06 μm to 0.5 μm).

These particles are constituted essentially of a wax or of a mixture of waxes. They can however include a smaller proportion of oily and/or pasty fatty additives, a surfactant and/or a usual fat-soluble additive/active.

Pasty compounds

The compositions according to the invention, in particular the compositions of the mascara type, can additionally include at least one pasty compound.

"Pasty compound" in the sense of the present invention means a lipophilic fatty compound with reversible solid/liquid change of state and having, at a temperature of 23°C, a liquid fraction and a solid fraction.

In other words, the initial melting point of the pasty compound is below 23°C. The liquid fraction of the pasty compound, measured at 23°C, represents from 20 to 97 wt.% of the pasty compound. This fraction that is liquid at 23°C more preferably represents from 25 to 85%, and better still from 30 to 60 wt.% of the pasty compound.

The liquid fraction by weight of the pasty compound at 23°C is equal to the ratio of the enthalpy of fusion consumed at 23°C to the enthalpy of fusion of the pasty compound.

The enthalpy of fusion consumed at 23°C is the amount of energy absorbed by the sample in passing from the solid state to the state that it exhibits at 23°C, constituted of a liquid fraction and of a solid fraction.

5 The enthalpy of fusion of the pasty compound is the enthalpy consumed by the compound in passing from the solid state to the liquid state. The pasty compound is said to be in the solid state when the whole of its mass is in the form of solid. The pasty compound is said to be in the liquid state when the whole of its mass is in the form of liquid.

10 The enthalpy of fusion of the pasty compound is equal to the area under the curve of the thermogram obtained with a differential scanning calorimeter (DSC), such as the calorimeter sold under the name MDSC 2920 by the company TA instrument, with a temperature increase of 5 or 10°C per minute, according to the standard ISO 11357-3:1999. The enthalpy of fusion of the pasty compound is the amount of energy required to cause the compound to pass from the solid state to the liquid state. It is expressed in J/g.

15 The liquid fraction of the pasty compound, measured at 32°C, preferably represents from 40 to 100 wt.% of the pasty compound, more preferably from 50 to 100 wt.% of the pasty compound. When the liquid fraction of the pasty compound measured at 32°C is equal to 100%, the temperature of the end of the melting range of the pasty compound is less than or equal to 32°C.

20 The liquid fraction of the pasty compound, measured at 32°C, is equal to the ratio of the enthalpy of fusion consumed at 32°C to the enthalpy of fusion of the pasty compound. The enthalpy of fusion consumed at 32°C is calculated in the same way as the enthalpy of fusion consumed at 23°C.

25 The pasty compound preferably has a hardness at 20°C in the range from 0.001 to 0.5 MPa, preferably from 0.002 to 0.4 MPa.

30 The hardness is measured according to a method of penetration of a probe into a sample of compound and in particular by means of a texture analyser (for example the TA-XT2i from Rheo) equipped with a stainless steel cylinder with diameter of 2 mm. Hardness measurement is carried out at 20°C at the centre of 5 test specimens. The cylinder is introduced into each test specimen, to a penetration depth of 0.3 mm. The hardness value recorded is the peak value.

The pasty compound can be selected from the synthetic compounds and the compounds of vegetable origin. A pasty compound can be obtained by synthesis from starting products of vegetable origin.

The pasty compound is advantageously selected from:

- 5 - lanolin and its derivatives such as lanolin alcohol, ethoxylated lanolins, acetylated lanolin, lanolin esters such as isopropyl lanolate, propoxylated lanolins,
- polymeric or non-polymeric silicone compounds such as high molecular weight polydimethylsiloxanes, polydimethylsiloxanes with side chains of the alkyl or alkoxy type having from 8 to 24 carbon atoms, notably stearyl dimethicones,
- 10 - polymeric or non-polymeric fluorinated compounds,
- vinylic polymers, notably
 - homopolymers of olefins,
 - copolymers of olefins,
 - homopolymers and copolymers of hydrogenated dienes,
- 15 - linear or branched oligomers, homo- or copolymers of alkyl (meth)acrylates preferably having a C₈-C₃₀ alkyl group,
- homo- and copolymeric oligomers of vinyl esters having C₈-C₃₀ alkyl groups,
- homo- and copolymeric oligomers of vinyl ethers having C₈-C₃₀ alkyl
- 20 groups,
- fat-soluble polyethers resulting from polyetherification between one or more C₂-C₁₀₀, preferably C₂-C₅₀, diols,
- esters and polyesters,
- and mixtures thereof.

25 The pasty compound can be a polymer, notably a hydrocarbon polymer.

A preferred siliconized and fluorinated pasty compound is polymethyl-trifluoropropyl-methylalkyl-dimethylsiloxane, manufactured under the name X22-1088 by SHIN ETSU.

30 When the pasty compound is a siliconized and/or fluorinated polymer, the composition advantageously includes a compatibilizing agent such as short-chain esters, e.g. isodecyl neopentanoate.

Among the fat-soluble polyethers, we may notably mention the copolymers of ethylene oxide and/or of propylene oxide with C₆-C₃₀ alkylene oxides. Preferably, the weight ratio of the ethylene oxide and/or of the propylene oxide to the higher alkylene oxides in the copolymer is from 5:95 to 70:30. In this class, we may notably mention the block copolymers comprising blocks of C₆-C₃₀ alkylene oxides having a molecular weight in the range from 1000 to 10 000, for example a polyoxyethylene/polydodecylene glycol block copolymer such as the ethers of dodecanediol (22 mol) and of polyethylene glycol (45 ethoxylated units or EO) marketed under the trademark ELFACOS ST9 by Akzo Nobel.

Among the esters, notably the following are preferred:

- the esters of a glycerol oligomer, notably the esters of diglycerol, in particular the condensates of adipic acid and of glycerol, for which some of the hydroxyl groups of the glycerols have reacted with a mixture of fatty acids such as stearic acid, capric acid, stearic acid, isostearic acid and 12-hydroxystearic acid, such as those notably marketed under the trademark Softisan 649 by the company Sasol;

- the esters of phytosterol;

- the esters of pentaerythritol;

- the esters formed from:

- at least one C₁₆₋₄₀ alcohol, at least one of the alcohols being a Guerbet

alcohol and

- a diacid dimer formed from at least one C₁₈₋₄₀ unsaturated fatty acid,

such as the ester of tall oil fatty acid dimer comprising 36 carbon atoms and of a mixture i) of Guerbet alcohols comprising 32 carbon atoms and ii) of behenyl alcohol; the ester of dimer of linoleic acid and of a mixture of two Guerbet alcohols, 2-tetradecyl-octadecanol (32 carbon atoms) and 2-hexadecyl-eicosanol (36 carbon atoms);

- the non-crosslinked polyesters resulting from polycondensation between a dicarboxylic acid or a linear or branched, C₄-C₅₀ polycarboxylic acid, and a diol or a C₂-C₅₀ polyol;

- the polyesters that result from the esterification between a polycarboxylic acid and an aliphatic hydroxylated carboxylate such as Risocast DA-L and Risocast DA-H marketed by the Japanese company KOKYU ALCOHOL KOGYO, which are esters

resulting from the reaction of esterification of hydrogenated castor oil with dilinoleic acid or isostearic acid; and

- the aliphatic esters of ester resulting from the esterification between an aliphatic hydroxylated carboxylate and an aliphatic carboxylic acid, for example that sold under the trade name Salacos HCIS (V)-L by the company Nishing Oil.

A Guerbet alcohol is the product of the Guerbet reaction, which is well known by a person skilled in the art. It is a reaction for converting a primary aliphatic alcohol to its β -alkylated alcohol dimer with loss of one equivalent of water.

The aliphatic carboxylic acids described above generally have from 4 to 30 and preferably from 8 to 30 carbon atoms. They are preferably selected from hexanoic acid, heptanoic acid, octanoic acid, 2-ethylhexanoic acid, nonanoic acid, decanoic acid, undecanoic acid, dodecanoic acid, tridecanoic acid, tetradecanoic acid, pentadecanoic acid, hexadecanoic acid, hexyldecanoic acid, heptadecanoic acid, octadecanoic acid, isostearic acid, nonadecanoic acid, eicosanoic acid, isoarachidic acid, octyldodecanoic acid, heneicosanoic acid, docosanoic acid and mixtures thereof.

The aliphatic carboxylic acids are preferably branched.

The esters of hydroxylated aliphatic carboxylic acid are advantageously derived from a hydroxylated aliphatic carboxylic acid having from 2 to 40 carbon atoms, preferably from 10 to 34 carbon atoms and more preferably from 12 to 28 carbon atoms, and from 1 to 20 hydroxyl groups, preferably from 1 to 10 hydroxyl groups and more preferably from 1 to 6 hydroxyl groups. The esters of hydroxylated aliphatic carboxylic acid are notably selected from:

a) partial or total esters of linear, saturated, monohydroxylated aliphatic monocarboxylic acids;

b) partial or total esters of unsaturated monohydroxylated aliphatic monocarboxylic acids;

c) partial or total esters of saturated monohydroxylated aliphatic polycarboxylic acids;

d) partial or total esters of saturated polyhydroxylated aliphatic polycarboxylic acids;

e) partial or total esters of C_2 to C_{16} aliphatic polyols that have reacted with a mono- or polyhydroxylated aliphatic mono- or a polycarboxylic acid,

f) and mixtures thereof.

The aliphatic esters of ester are advantageously selected from:

- the ester resulting from the reaction of esterification of hydrogenated castor oil with isostearic acid in the proportions 1 to 1 (1/1), which is called monoisostearate of hydrogenated castor oil,
- the ester resulting from the reaction of esterification of hydrogenated castor oil with isostearic acid in the proportions 1 to 2 (1/2), which is called diisostearate of hydrogenated castor oil,
- the ester resulting from the reaction of esterification of hydrogenated castor oil with isostearic acid in the proportions 1 to 3 (1/3), which is called triisostearate of hydrogenated castor oil,
- and mixtures thereof.

Preferably, the pasty compound is selected from the compounds of vegetable origin.

Among the latter, we may notably mention isomerized jojoba oil such as the partially hydrogenated isomerized trans jojoba oil manufactured or marketed by the company Desert Whale under the commercial reference Iso-Jojoba-50[®], orange peel wax, for example that which is marketed under the reference Orange Peel Wax by the company Koster Keunen, cupuacu butter (Rain forest RF3410), murumuru butter (murumuru butter from the company Beraca Sabara), shea butter, partially hydrogenated olive oil, for example the compound marketed under the reference Beurrolive by the company Soliance, cocoa butter, mango oil, for example Lipex 302 from the company Aarhuskarlshamn.

According to a particular embodiment, a composition according to the invention comprises shea butter.

The pasty compound or compounds are preferably present in a larger amount ranging from 0.1 to 10 wt.%, notably from 0.5 to 5 wt.%, relative to the total weight of the composition.

The compositions according to the invention can moreover comprise any ingredient used conventionally in the fields in question and more especially in the field of mascaras and/or nail varnish, such as for example film-forming polymers, gelling agents, fillers and/or fibres.

Film-forming polymers

Among the film-forming polymers that can be used in the compositions of the present invention, we may mention synthetic polymers, of the radical type or of the polycondensate type, polymers of natural origin, and mixtures thereof.

"Radical film-forming polymer" means a polymer obtained by polymerization of unsaturated, notably ethylenically unsaturated monomers, each monomer being capable of homopolymerization (in contrast to the polycondensates).

The film-forming polymers of the radical type can notably be vinylic polymers or copolymers, notably acrylic polymers.

The vinylic film-forming polymers can result from the polymerization of ethylenically unsaturated monomers having at least one acid group and/or esters of these acid monomers and/or amides of these acid monomers.

As monomer bearing an acid group, it is possible to use unsaturated α,β -ethylenic carboxylic acids such as acrylic acid, methacrylic acid, crotonic acid, maleic acid, itaconic acid. Preferably (meth)acrylic acid and crotonic acid, and more preferably (meth)acrylic acid, are used.

The esters of acid monomers are advantageously selected from the esters of (meth)acrylic acid (also called (meth)acrylates), notably alkyl (meth)acrylates, in particular C₁-C₃₀, preferably C₁-C₂₀ alkyl; aryl (meth)acrylates, in particular C₆-C₁₀ aryl; hydroxyalkyl (meth)acrylates, in particular C₂-C₆ hydroxyalkyl.

Among the alkyl (meth)acrylates, we may mention methyl methacrylate, ethyl methacrylate, butyl methacrylate, isobutyl methacrylate, ethyl-2 hexyl methacrylate, lauryl methacrylate, cyclohexyl methacrylate.

Among the hydroxyalkyl (meth)acrylates, we may mention hydroxyethyl acrylate, 2-hydroxypropyl acrylate, hydroxyethyl methacrylate, 2-hydroxypropyl methacrylate.

Among the aryl (meth)acrylates, we may mention benzyl acrylate and phenyl acrylate.

The esters of (meth)acrylic acid that are particularly preferred are the alkyl (meth)acrylates.

According to the present invention, the alkyl group of the esters can be either

fluorinated, or perfluorinated, i.e. some or all of the hydrogen atoms of the alkyl group are substituted with fluorine atoms.

As amides of the acid monomers, we may mention for example the (meth)acrylamides, and notably the N-alkyl (meth)acrylamides, in particular of C2-C12 alkyl. Among the N-alkyl (meth)acrylamides, we may mention the N-ethyl acrylamide, N-t-butyl acrylamide, N-t-octyl acrylamide and N-undecylacrylamide.

The vinylic film-forming polymers can also result from the homopolymerization or the copolymerization of monomers selected from the vinyl esters and styrene monomers. In particular, these monomers can be polymerized with acid monomers and/or their esters and/or their amides, such as those mentioned previously.

As examples of vinyl esters, we may mention vinyl acetate, vinyl neodecanoate, vinyl pivalate, vinyl benzoate and vinyl t-butyl benzoate.

As styrene monomers, we may mention styrene and alpha-methylstyrene.

Among the film-forming polycondensates, we may mention the polyurethanes, the polyesters, the polyester amides, the polyamides, and the epoxy ester resins, the polyureas.

The polyurethanes can be selected from the anionic, cationic, non-ionic or amphoteric polyurethanes, the acrylic polyurethanes, the polyurethane-polyvinylpyrrolidones, the polyester-polyurethanes, the polyether-polyurethanes, the polyureas, the polyurea-polyurethanes, and mixtures thereof.

The polyesters can be obtained, as is known, by polycondensation of dicarboxylic acids with polyols, notably diols.

The dicarboxylic acid can be aliphatic, alicyclic or aromatic. We may mention as examples of such acids: oxalic acid, malonic acid, dimethylmalonic acid, succinic acid, glutaric acid, adipic acid, pimelic acid, 2,2-dimethylglutaric acid, azelaic acid, suberic acid, sebacic acid, fumaric acid, maleic acid, itaconic acid, phthalic acid, dodecanedioic acid, 1,3-cyclohexanedicarboxylic acid, 1,4-cyclohexanedicarboxylic acid, isophthalic acid, terephthalic acid, 2,5-norbornane dicarboxylic acid, diglycolic acid, thiodipropionic acid, 2,5-naphthalenedicarboxylic acid, 2,6-naphthalenedicarboxylic acid. These dicarboxylic acid monomers can be used alone or in combination with at least two dicarboxylic acid monomers. Among these monomers, phthalic acid, isophthalic acid, terephthalic acid are

preferably selected.

The diol can be selected from the aliphatic, alicyclic, aromatic diols. Preferably a diol is used, selected from: ethylene glycol, diethylene glycol, triethylene glycol, 1,3-propanediol, cyclohexane dimethanol, 4-butanediol. As other polyols, it is possible to use glycerol, pentaerythritol, sorbitol, trimethylol propane.

The polyester amides can be obtained as for the polyesters, by polycondensation of diacids with diamines or amino alcohols. As diamine, it is possible to use ethylenediamine, hexamethylenediamine, meta- or para-phenylenediamine. As amino alcohol, it is possible to use monoethanolamine.

The polyester can additionally comprise at least one monomer bearing at least one group $-\text{SO}_3\text{M}$, with M representing a hydrogen atom, an ammonium ion NH_4^+ or a metal ion, for example an Na^+ , Li^+ , K^+ , Mg^{2+} , Ca^{2+} , Cu^{2+} , Fe^{2+} , Fe^{3+} ion. Notably a bifunctional aromatic monomer bearing said group $-\text{SO}_3\text{M}$ can also be used.

The aromatic nucleus of the bifunctional aromatic monomer additionally bearing a group $-\text{SO}_3\text{M}$ as described above can be selected for example from the benzene, naphthalene, anthracene, diphenyl, oxydiphenyl, sulphonyldiphenyl, methylenediphenyl nuclei. We may mention as examples of bifunctional aromatic monomer additionally bearing a group $-\text{SO}_3\text{M}$: sulphoisophthalic acid, sulphoterephthalic acid, sulphophthalic acid, 4-sulphonaphthalene-2,7-dicarboxylic acid.

It is preferable to use copolymers based on isophthalate/sulphoisophthalate, and more particularly copolymers obtained by condensation of diethylene glycol, cyclohexane dimethanol, isophthalic acid, sulphoisophthalic acid.

The polymers of natural origin, optionally modified, can be selected from shellac resin, sandarac gum, damars, elemis, copals, cellulosic polymers and mixtures thereof.

According to a first embodiment of the invention, the film-forming polymer can be a water-soluble polymer and can then be present in the aqueous continuous phase of an emulsion according to the invention.

According to another variant, the film-forming polymer can be a polymer dissolved in a liquid oil phase comprising oils or organic solvents such as those described hereunder (the film-forming polymer is then said to be a fat-soluble polymer). Preferably, the liquid oil phase comprises a volatile oil, optionally mixed with a non-volatile oil, and

the oils can be selected from the oils mentioned below.

As examples of fat-soluble polymer, we may mention the copolymers of vinyl ester (the vinyl group being joined directly to the oxygen atom of the ester group and the vinyl ester having a linear or branched, saturated hydrocarbon radical with 1 to 19 carbon atoms, bound to the carbonyl of the ester group) and of at least one other monomer, which can be a vinyl ester (different from the vinyl ester already present), an α -olefin (having from 8 to 28 carbon atoms), an alkylvinyl ether (whose alkyl group has from 2 to 18 carbon atoms), or an allylic or methallylic ester (having a linear or branched, saturated hydrocarbon radical with 1 to 19 carbon atoms, bound to the carbonyl of the ester group).

These copolymers can be crosslinked using crosslinking agents, which can be either of the vinylic type, or of the allylic or methallylic type, such as tetraallyloxyethane, divinylbenzene, divinyl octanedioate, divinyl dodecanedioate, and divinyl octadecanedioate.

As examples of these copolymers, we may mention the copolymers: vinyl acetate/allyl stearate, vinyl acetate/vinyl laurate, vinyl acetate/vinyl stearate, vinyl acetate/octadecene, vinyl acetate/octadecylvinyl ether, vinyl propionate/allyl laurate, vinyl propionate/vinyl laurate, vinyl stearate/octadecene-1, vinyl acetate/dodecene-1, vinyl stearate/ethylvinyl ether, vinyl propionate/cetyl vinyl ether, vinyl stearate/allyl acetate, vinyl dimethyl-2,2-octanoate/vinyl laurate, allyl dimethyl-2,2-pentanoate/vinyl laurate, dimethyl vinyl propionate/vinyl stearate, allyl dimethyl propionate/vinyl stearate, vinyl propionate/vinyl stearate, crosslinked with 0.2% of divinyl benzene, dimethyl vinyl propionate/vinyl laurate, crosslinked with 0.2% of divinyl benzene, vinyl acetate/octadecyl vinyl ether, crosslinked with 0.2% of tetraallyloxyethane, vinyl acetate/allyl stearate, crosslinked with 0.2% of divinyl benzene, vinyl acetate/octadecene-1 crosslinked with 0.2% of divinyl benzene and allyl propionate/allyl stearate crosslinked with 0.2% of divinyl benzene.

As fat-soluble film-forming polymers, we may also mention the fat-soluble copolymers, and in particular those resulting from copolymerization of vinyl esters having from 9 to 22 carbon atoms or of alkyl acrylates or methacrylates, the alkyl radicals having from 10 to 20 carbon atoms.

These fat-soluble copolymers can be selected from the copolymers of vinyl polystearate, of vinyl polystearate crosslinked using divinylbenzene, of diallyl ether or of

diallyl phthalate, the copolymers of stearyl poly(meth)acrylate, of polyvinyl laurate, of lauryl poly(meth)acrylate, and these poly(meth)acrylates can be crosslinked using dimethacrylate of ethylene glycol or of tetraethylene glycol.

5 The fat-soluble copolymers defined previously are known and notably described in application FR-A-2232303; they can have a weight-average molecular weight in the range from 2000 to 500 000 and preferably from 4000 to 200 000.

We may also mention the fat-soluble homopolymers, and in particular those resulting from the homopolymerization of vinyl esters having from 9 to 22 carbon atoms or of alkyl acrylates or methacrylates, the alkyl radicals having from 2 to 24 carbon atoms.

10 As examples of fat-soluble homopolymers, we may notably mention: polyvinyl laurate and lauryl poly(meth)acrylates, and these poly(meth)acrylates can be crosslinked using dimethacrylate of ethylene glycol or of tetraethylene glycol.

According to an advantageous embodiment, a composition according to the invention comprises at least one polyvinyl laurate film-forming polymer.

As fat-soluble film-forming polymers for use in the invention, we may also mention the polyalkylenes and notably the copolymers of C₂-C₂₀ alkenes, such as polybutylene, the alkylcelluloses with a linear or branched, saturated or unsaturated C₁ to C₈ alkyl radical, such as ethylcellulose and propylcellulose, the copolymers of vinylpyrrolidone (VP) and notably the copolymers of vinylpyrrolidone and C₂ to C₄₀ and preferably C₃ to C₂₀ alkene. As examples of VP copolymer for use in the invention, we may mention the VP/vinyl acetate, VP/ethyl methacrylate, butylated polyvinylpyrrolidone (PVP), VP/ethyl methacrylate/methacrylic acid, VP/eicosene, VP/hexadecene, VP/triacontene, VP/styrene, VP/acrylic acid/lauryl methacrylate copolymers.

25 We may also mention the silicone resins, generally soluble or swellable in the silicone oils, which are crosslinked polyorganosiloxane polymers. The nomenclature of the silicone resins is known by the name of "MDTQ", the resin being described according to the various siloxane monomer units that it comprises, each of the letters "MDTQ" characterizing a type of unit.

30 As examples of commercially available polymethylsilsesquioxane resins, we may mention those that are marketed by the company Wacker under the reference Resin

MK such as Belsil PMS MK, and by the company SHIN-ETSU under the references KR-220L.

As siloxysilicate resins, we may mention the trimethylsiloxysilicate resins (TMS) such as those marketed under the reference SR1000 by the company General Electric or under the reference TMS 803 by the company Wacker. We may also mention the trimethylsiloxysilicate resins marketed in a solvent such as cyclomethicone, sold under the name "KF-7312J" by the company Shin-Etsu, "DC 749", "DC 593" by the company Dow Corning.

We may also mention copolymers of silicone resins such as those mentioned above with polydimethylsiloxanes, such as the pressure-sensitive adhesive copolymers marketed by the company Dow Corning under the reference BIO-PSA and described in document US 5,162,410 or the silicone copolymers resulting from the reaction of a silicone resin, such as those described above, and of a diorganosiloxane such as described in document WO 2004/073626.

It is also possible to use the siliconized polyamides of the polyorganosiloxane type such as those described in documents US-A-5,874,069, US-A-5,919,441, US-A-6,051,216 and US-A-5,981,680.

These silicone polymers can belong to the following two families:

- polyorganosiloxanes having at least two groups capable of establishing hydrogen interactions, these two groups being located in the chain of the polymer, and/or
- polyorganosiloxanes having at least two groups capable of establishing hydrogen interactions, these two groups being located on grafts or branches.

According to one embodiment of the invention, the film-forming polymer is a linear ethylenic film-forming block polymer, which preferably comprises at least one first block and at least one second block having different glass transition temperatures (T_g), said first and second blocks being joined together by an intermediate block comprising at least one monomer that is a constituent of the first block and at least one monomer that is a constituent of the second block.

Advantageously, the first and second blocks and of the block polymer are incompatible with one another.

Such polymers are described for example in documents EP 1 411 069 or WO 04/028488.

The film-forming polymer can also be present in a composition of the invention in the form of particles dispersed in an aqueous phase or in a non-aqueous solvent phase, known generally as a latex or pseudolatex. The techniques for preparation of these dispersions are well known by a person skilled in the art.

5 As aqueous dispersion of film-forming polymer, it is possible to use the acrylic dispersions sold under the names Neocryl XK-90[®], Neocryl A-1070[®], Neocryl A-1090[®], Neocryl BT-62[®], Neocryl A-1079[®] and Neocryl A-523[®] by the company AVECIA-NEORESINS, Dow Latex 432[®] by the company DOW CHEMICAL, Daitosol 5000 AD[®] or Daitosol 5000 SJ[®] by the company DAITO KASEY
10 KOGYO; Syntran 5760[®] by the company Interpolymer, Allianz OPT by the company ROHM & HAAS, the aqueous dispersions of acrylic or styrene/acrylic polymers sold under the trademark JONCRYL[®] by the company JOHNSON POLYMER or the aqueous dispersions of polyurethane sold under the names Neorez R-981[®] and Neorez R-974[®] by the company AVECIA-NEORESINS, Avalure UR-405[®], Avalure
15 UR-410[®], Avalure UR-425[®], Avalure UR-450[®], Sancure 875[®], Sancure 861[®], Sancure 878[®] and Sancure 2060[®] by the company GOODRICH, Impranil 85[®] by the company BAYER, Aquamere H-1511[®] by the company HYDROMER; the sulphopolyesters sold under the trademark Eastman AQ[®] by the company Eastman Chemical Products, the vinyl dispersions such as Mexomère PAM[®] from the company CHIMEX and mixtures thereof.

20 As examples of non-aqueous dispersions of film-forming polymer, we may mention the acrylic dispersions in isododecane such as Mexomère PAP[®] from the company CHIMEX, the dispersions of particles of a grafted ethylenic polymer, preferably acrylic, in a liquid oil phase, the ethylenic polymer advantageously being dispersed in the absence of additional stabilizing agent on the surface of the particles such as notably
25 described in document WO 04/055081.

A composition according to the invention can additionally comprise a plasticizer promoting the formation of a film with the film-forming polymer. Said plasticizer can be selected from all the compounds known by a person skilled in the art as being able to fulfil the required function.

30

Gelling agents

A composition of the invention can also comprise at least one hydrophilic or water-soluble gelling agent.

As hydrophilic or water-soluble gelling agents, we may mention:

- the homo- or copolymers of acrylic or methacrylic acids or salts thereof and their esters and in particular the products sold under the names "VERSICOL F" or "VERSICOL K" by the company ALLIED COLLOID, "UTRAHOLD 8" by the company CIBA-GEIGY, the polyacrylic acids of the SYNTHALEN K type,
 - the copolymers of acrylic acid and acrylamide sold in the form of their sodium salt under the names "RETEN" by the company HERCULES, the sodium polymethacrylate sold under the name "DARVAN No. 7" by the company VANDERBILT, the sodium salts of polyhydroxycarboxylic acids sold under the name "HYDAGEN F" by the company HENKEL,
 - polyacrylic acid/alkyl acrylate copolymers of the PEMULEN type,
 - AMPS (polyacrylamidomethyl propane sulphonic acid partially neutralized with ammonia and highly crosslinked) marketed by the company CLARIANT,
 - AMPS/acrylamide copolymers of the SEPIGEL or SIMULGEL type marketed by the company SEPPIC, and
 - AMPS/polyethoxylated alkyl methacrylate copolymers (crosslinked or not) and mixtures thereof.
- As other examples of water-soluble polymer gelling agents, we may mention:
- proteins such as proteins of vegetable origin such as wheat protein, soya protein; proteins of animal origin such as the keratins, for examples hydrolysates of keratin and the sulphonic keratins;
 - anionic, cationic, amphoteric or non-ionic polymers of chitin or of chitosan;
 - cellulose polymers such as hydroxyethylcellulose, hydroxypropylcellulose, methylcellulose, ethylhydroxyethylcellulose, carboxymethylcellulose, as well as the quaternized derivatives of cellulose;
 - vinylic polymers, such as polyvinylpyrrolidones, the copolymers of methylvinyl ether and of malic anhydride, copolymer of vinyl acetate and crotonic acid, copolymers of vinylpyrrolidone and vinyl acetate; copolymers of vinylpyrrolidone and caprolactam; polyvinyl alcohol;

- associative polyurethanes such as the polymer C16-OE120-C16 from the company SERVO DELDEN (marketed under the name SER AD FX1100, molecule with urethane function and weight-average molecular weight of 1300), OE being an ethoxylated unit, Rheolate 205 with urea function sold by the company RHEOX or Rheolate 208 or 204 (these polymers being sold in pure form) or DW 1206B from RHOM & HAAS with C₂₀ alkyl chain and with urethane linkage, sold at 20% dry matter in water. Solutions or dispersions of these associative polyurethanes notably in water or in aqueous-alcoholic medium, can also be used. As examples of these polymers, we may mention SER AD fx1010, SER AD FX1035 and SER AD 1070 from the company SERVO DELDEN, Rheolate 255, Rheolate 278 and Rheolate 244 sold by the company RHEOX. It is also possible to use the product DW 1206F and DW 1206J, as well as Acrysol RM 184 or Acrysol 44 from the company RHOM & HAAS, or Borchigel LW 44 from the company BORCHERS,

- polymers of natural origin, optionally modified, such as:

- gum arabic, guar gum, derivatives of xanthan, karaya gum;
- alginates and the carrageenans;
- glycoaminoglycans, hyaluronic acid and its derivatives;
- shellac resin, sandarac gum, damars, elemis, copals;
- deoxyribonucleic acid;
- mucopolysaccharides such as hyaluronic acid, chondroitin sulphates, and mixtures thereof.

Some of the water-soluble film-forming polymers mentioned above can also perform the role of water-soluble gelling agents.

The hydrophilic gelling agents can be present in the compositions according to the invention in a content ranging from 0.05 to 40 wt.% relative to the total weight of the composition, preferably from 0.1 to 20 wt.% and more preferably from 0.5 to 15 wt.%.

Fillers

The composition according to the invention can also comprise at least one filler. These fillers are notably used for modifying the rheology or the texture of the composition.

The fillers can be mineral or organic of any shape, as flakes, spherical or oblong, regardless of the crystal habit (for example leaf, cubic, hexagonal, orthorhombic, etc.). We may mention talc, mica, silica, silica surface-treated with a hydrophobic agent, kaolin, powders of polyamide (Nylon[®]) (Orgasol[®] from Atochem), of poly- β -alanine and
5 of polyethylene, powders of tetrafluoroethylene polymers (Teflon[®]), lauroyl-lysine, starch, boron nitride, hollow polymer microspheres such as those of polyvinylidene chloride/acrylonitrile such as Expancel[®] (Nobel Industry), of copolymers of acrylic acid (Polytrap[®] from the company Dow Corning) and microbeads of silicone resin (Tospearls[®] from Toshiba, for example), particles of elastomeric polyorganosiloxanes, precipitated
10 calcium carbonate, magnesium carbonate and hydrogen carbonate, hydroxyapatite, hollow silica microspheres (Silica Beads[®] from Maprecos), glass or ceramic microcapsules, metal soaps derived from organic carboxylic acids having from 8 to 22 carbon atoms, preferably from 12 to 18 carbon atoms, for example zinc stearate, magnesium stearate or lithium stearate, zinc laurate, magnesium myristate.

15 It is also possible to use a compound that will swell under the action of heat and notably heat-expandable particles such as unexpanded microspheres of vinylidene chloride/acrylonitrile/methyl methacrylate copolymer or of copolymer of acrylonitrile homopolymer for example those marketed respectively under the references Expancel[®] 820 DU 40 and Expancel[®] 007WU by the company AKZO NOBEL.

20 The fillers can represent from 0.1 to 25%, in particular from 0.2 to 20 wt.% relative to the total weight of the composition.

Fibres

25 The compositions according to the invention can also comprise at least one fibre, notably making it possible, in the case of application of a composition of the invention in the form of mascara, to obtain an improvement of the lengthening effect.

"Fibre" is to be understood as an object of length L and diameter D such that L is greater than D, and preferably much greater than D, D being the diameter of the circle in which the fibre section is inscribed. In particular, the ratio L/D (or form factor) is selected
30 in the range from 3.5 to 2500, preferably from 5 to 500, and more preferably from 5 to 150.

The fibres for use in the composition of the invention can be mineral or organic fibres of synthetic or natural origin. They can be short or long, individual or combined –for example braided; hollow or solid. They can be of any shape and notably of circular or polygonal section (square, hexagonal or octagonal) depending on the specific application envisaged. In particular, their ends are blunted and/or polished to prevent injury.

In particular, the fibres have a length in the range from 1 μm to 10 mm, preferably from 0.1 mm to 5 mm and more preferably from 0.3 mm to 3 mm. Their section can be contained in a circle with diameter in the range from 2 nm to 500 μm , preferably in the range from 100 nm to 100 μm and more preferably from 1 μm to 50 μm . The weight or fineness of the fibres is often given in denier or decitex and represents the weight in gram per 9 km of thread. Preferably, the fibres according to the invention have a fineness selected in the range from 0.01 to 10 denier, preferably from 0.1 to 2 denier and more preferably from 0.3 to 0.7 denier.

The fibres for use in the compositions according to the invention can be selected from rigid or non-rigid fibres, they can be of synthetic or natural origin, mineral or organic.

Moreover, the fibres can be surface-treated or not, coated or uncoated, coloured or not.

As fibres for use in the compositions according to the invention, we may mention the non-rigid fibres such as the fibres of polyamide (Nylon[®]) or the rigid fibres such as the fibres of polyimide-amide such as those sold under the names KERMEL[®], KERMEL TECH[®] by the company RHODIA or of poly-(p-phenylene-terephthalamide) (or of aramid) notably sold under the name Kevlar[®] by the company DUPONT DE NEMOURS.

The fibres can be present in a content in the range from 0.01 to 10 wt.%, relative to the total weight of the composition, in particular from 0.1 to 5 wt.%, and more particularly from 0.3 to 3 wt.%.

The compositions according to the invention can additionally comprise any cosmetic active such as the actives selected from antioxidants, preservatives, perfumes, bactericidal actives or antiperspirants, neutralizing agents, emollients, hydrating agents,

thickeners, trace elements, softening agents, sequestering agents, alkalizing or acidifying agents, hydrophilic or lipophilic actives, coalescing agents, plasticizers, vitamins, filters in particular sun filters, and mixtures thereof.

Of course, a person skilled in the art will take care to select the optional
5 additional compounds, and/or their amount, in such a way that the advantageous properties of the composition according to the invention are not, or substantially not, affected by the addition envisaged.

The composition according to the invention can be packaged in a container
10 delimiting at least one compartment that contains said composition, said container being closed by a closure element.

The container can be of any suitable shape. It can notably be in the form of a bottle, a tube, a pot, a case, a box or a sachet.

The closure element can be in the form of a detachable stopper, a cover, a lid,
15 a tear-off strip, or a cap, notably of the type comprising a body fixed to the container and a cap hinged on the body. It can also be in the form of an element that provides selective closure of the container, notably a pump or a valve.

The container can be combined with an applicator, notably in the form of a brush having an arrangement of bristles held by a twisted thread. This kind of twisted
20 brush is described notably in patent US 4,887,622. It can also be in the form of a comb having a plurality of application elements, obtained notably by moulding. Combs of this kind are described for example in patent FR 2 796 529. The applicator can be in the form of an artist's brush, such as described for example in patent FR 2 722 380. The applicator can be in the form of a block of foam or of elastomer. The applicator can be free (sponge)
25 or integral with a rod carried by the closure element, as described for example in patent US 5,492,426. The applicator can be integral with the container, as described for example in patent FR 2 761 959.

The product can be contained directly in the container, or indirectly. As an example, the product can be arranged on an impregnated support, notably in the form of a
30 wipe or a pad, and arranged (singly or several) in a box or in a sachet. A support of this kind incorporating the product is described for example in application WO 01/03538.

The closure element can be connected to the container by screwing. Alternatively, the connection between the closure element and the container is effected otherwise than by screwing, notably with a bayonet mechanism, with a catch, or by tightening. "Catch" means in particular any system involving passing a band or a raised
5 edge of material by elastic deformation of a portion, notably of the closure element, then returning to a position without elastic strain of said portion after passing the band or raised edge.

The container can be made at least partly of thermoplastic material. As examples of thermoplastic materials, we may mention polypropylene or polyethylene.

10 Alternatively, the container is made of a non-thermoplastic material, notably of glass or of metal (or alloy).

The container can have rigid walls or deformable walls, notably in the form of a tube or a tubular bottle.

The container can include means intended for causing or facilitating the
15 distribution of the composition. For example, the container can have deformable walls so that the composition is caused to come out in response to an excess pressure inside the container, said excess pressure being caused by elastic (or non-elastic) squashing of the walls of the container.

The container can be equipped with a draining device arranged near the
20 opening of the container. This draining device is used for wiping off the applicator and optionally the rod with which it can be integral. This draining device is described for example in patent FR 2 792 618.

According to a particular embodiment, a composition according to the
25 invention can be a composition intended to be applied on the eyelashes, also called "mascara". It can be a make-up composition, a cosmetic composition called a "base-coat", and a composition to be applied on a base-coat cosmetic composition, called "top-coat". The mascara is more particularly intended for the eyelashes of a human, but also for false eyelashes.

30 According to another embodiment, a composition of the invention can be a foundation composition.

The compositions according to the invention can be manufactured by the known methods, generally used in the cosmetics field.

5 The invention is illustrated in more detail in the following examples, which are presented for purposes of illustration and do not limit the invention.

EXAMPLES**EXAMPLES 1 to 5****Formulation of mascaras**

Various formulations of mascara were prepared as shown in Table 1 below.

5

TABLE 1

Examples	1	2	3	4	5
Comments	Reference formula (not part of the invention)	Formula with coated pigment	Formula with coated pigment	Reference formula	Formula with concentrations of surfactants halved
Beeswax Bio	14	14	8.7	8.7	8.7
Carnauba Wax Bio	8	8	6.3	6.3	6.3
Candelilla wax	-	-	3	3	3
Shea butter	-	-	1	1	1
Conventional iron oxide	7	-	-	-	-
Iron oxide coated with stearyl glutamate ⁽¹⁾	-	5	-	5	5
Iron oxide coated with jojoba esters ⁽²⁾	-	-	5	-	-
Glycerol	3	3	3	3	3
Xanthan gum	0.2	0.2	0.6	0.4	0.4
Gum arabic	3	3	3	3	3
Sodium stearyl glutamate (Amisoft HS 11 from Ajinomoto)	1	1	0.7	1	0.5
Cetearyl alcohol/cetearyl glucoside (Montanov 68 from Seppic)	5	5	2.1	3	1.5
Glyceryl stearate	3	3	4.2	6	3
Ethanol	5	5	5	5	5
Preservatives	0.7	0.7	0.7	0.7	0.7
Water	Q.s. 100	Q.s. 100	Q.s. 100	Q.s. 100	Q.s. 100

⁽¹⁾ NAI-C33-7001-10 from Miyoshi

⁽²⁾ BWBO-NJE2 from KOBO

Procedure: In a double-walled main pan, the waxes, the Montanov 68 and the glyceryl stearate are melted at 85°C. The coated pigments are then dispersed in this oil phase, stirring vigorously.

In a secondary beaker, the sodium stearyl glutamate, the glycerol and the preservatives are dispersed in water at 85°C. The xanthan gum, then the gum arabic, are introduced into this aqueous phase and dispersed under a deflocculator until a smooth and homogeneous gel is obtained.

The emulsion is then prepared, while stirring vigorously, by adding the aqueous phase, also heated to 85°C, to the oil phase. The whole is then cooled, with stirring, to room temperature and the ethanol is added.

Results: The characteristics of the emulsions obtained are presented in Table 2 below.

TABLE 2

Examples	1	2	3	4	5
Quality of dispersion*	Very coarse	fine	Very fine	Very fine	Very fine
Macroscopic appearance	grainy	smooth	smooth	Smooth	smooth
Application properties	Dry, pasty, grainy	Creamy, smooth	Creamy, smooth	Creamy, smooth	Creamy/fluid, very smooth

*observation with the light microscope under polarized light

Examples of formulation 2 and 3, according to the invention, compared with Example 1, show the beneficial effect of the surfactants/coated pigment combination according to the invention on the quality and fineness of the emulsion.

Examples 4 and 5 show the beneficial effect of the surfactants/pigment combination according to the invention on the effectiveness of the emulsifying system. In fact, the emulsion according to the invention has good properties in terms of quality of dispersion, fineness of the emulsion and application properties, even when the content of surfactants is halved.

EXAMPLE 6Fluid foundation

Compounds/commercial references	wt. %
Oil phase	
Glyceryl mono/distearate	6.6
Jojoba oil	5.5
Dicaprylyl ether	17
Pigments (titanium dioxide and iron oxide sold under the reference NAI by Miyoshi Kasei) coated with aluminium stearoyl glutamate	13
Aqueous phase	
Sodium stearate	1.6
Potassium stearate	0.4
Water	39.7
Smectite	0.5
Glycerol	6
Final phase	
Silica	2
Ethanol	6
Tocopherol	0.2
Benzyl alcohol	0.5
Glycerol caprate	1

Procedure: The coated pigments are dispersed in the dicaprylyl ether and then introduced into the rest of the oil phase, which has been heated to 75°C. The emulsion is then prepared, stirring vigorously, by adding the aqueous phase, also heated to 75°C, to the oil phase. The whole is then cooled to room temperature to add the final phase.

Result: The emulsion is fine, the pigments are well dispersed and the water resistance as well as the maintenance of homogeneity on the skin is better than with an emulsion of the same formula made with uncoated pigments in the aqueous phase.

EXAMPLE 7Fluid foundation

Compounds/commercial references	wt. %
Oil phase	
Glyceryl mono/distearate	3
Mixture of cetylstearyl glucoside and cetyl, stearyl alcohols (20/80) (sold under the reference MONTANOV 68 [®] by the company SEPPIC)	3
Jojoba oil	5.5
Dicaprylyl ether	17
Pigments (titanium dioxide and iron oxide sold under the reference NAI by Miyoshi Kasei) coated with aluminium stearyl glutamate	13
Aqueous phase	
Monosodium salt of n-stearyl-L-glutamic acid sold under the reference Amisoft HS 11 by the company AJINOMOTO	1
Water	41.3
Smectite	0.5
Glycerol	6
Final phase	
Silica	2
Ethanol	6
Tocopherol	0.2
Benzyl alcohol	0.5
Glycerol caprate	1

Procedure: The composition is prepared according to the procedure described in Example 6.

Result: The emulsion is fine, the pigments are well dispersed and the water resistance on the skin is better than with an emulsion of the same formula prepared with uncoated pigments in the aqueous phase.

CLAIMS

1. Cosmetic composition, comprising a physiologically acceptable medium, characterized in that it comprises at least one oil phase dispersed in an aqueous phase, and
5 in that it comprises (i) at least one anionic or non-ionic surfactant with HLB greater than or equal to 12, said surfactant being present in free form in the composition, and (ii) at least one pigment coated with at least one lipophilic compound, with the exception of the metal salts of C₁₀-C₃₀ fatty acids, characterized in that :

- the lipophilic coating compound is selected from fluorinated surface agents; fluorosilicone surface agents; metal soaps; N-acylated amino acids or salts thereof; lecithin
10 and its derivatives; isopropyl triisostearyl titanate; isostearyl sebacate; natural vegetable or animal waxes, polar synthetic waxes; fatty esters; phospholipids, and mixtures thereof ; and

- the surfactant(s) with HLB greater than or equal to 12, present in free form in the composition is/are selected from the non-ionic surfactants selected from the alkyl
15 and polyalkyl esters of poly(ethylene oxide), the alkyl and polyalkyl ethers of poly(ethylene oxide), the alkyl and polyalkyl esters of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl ethers of sorbitan, whether polyethoxylated or not, the alkyl and polyalkyl glycosides or polyglycosides, in particular the alkyl and polyalkyl glucosides or polyglucosides, the alkyl and polyalkyl esters of sucrose, the alkyl and polyalkyl esters
20 of glycerol, whether polyethoxylated or not, the alkyl and polyalkyl ethers of glycerol, whether polyethoxylated or not and mixtures thereof; the anionic surfactants selected from alkyl ether sulphates, carboxylates, derivatives of amino acids, sulphonates, isethionates, taurates, sulphosuccinates, alkylsulphoacetates, polypeptides, metal salts of C₁₀-C₃₀, notably C₁₂-C₂₀ fatty acids, in particular metal stearates and mixtures thereof.

2. Composition according to claim 1, characterized in that the coating compound is selected from fluorinated surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; fatty esters; and mixtures thereof.

3. Composition according to claim 1 or 2, characterized in that the coating
30 compound is selected from fluorinated surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; fatty esters except castor oil; and mixtures thereof, and more particularly is selected from fluorinated

surface agents; N-acylated amino acids or salts thereof; isopropyl triisostearyl titanate; natural vegetable or animal waxes; and mixtures thereof.

4. Composition according to any one of the preceding claims, characterized in that the coating compound is selected from N-acylated amino acids and/or a salt thereof, in particular derivatives of glutamic acid and/or a salt thereof, notably stearyl glutamates, and fatty esters, in particular jojoba esters.

5. Composition according to any one of the preceding claims, characterized in that the coated pigments with at least one lipophilic compound are present in a content in the range from 0.1 to 30 wt.% relative to the total weight of the composition, preferably from 1 to 15 wt.%.

6. Composition according to any one of the preceding claims, characterized in that the surfactant(s) with HLB greater than or equal to 12, present in free form in the composition is/are selected from the derivatives of glutamic acid and/or salts thereof, the alkylpolyglycosides, sodium stearate, potassium stearate, and mixtures thereof.

7. Composition according to the preceding claim, characterized in that it comprises at least a combination of at least one derivative of glutamic acid and/or a salt thereof and of at least one alkylpolyglycoside, said derivative of glutamic acid or its salt notably being selected from the acyl glutamic acids whose acyl group has from 10 to 30 carbon atoms, preferably from 12 to 22 carbon atoms, the salts of these acids and mixtures thereof; and said alkylpolyglycoside being in particular cetylstearyl glucoside, notably used with cetylstearyl alcohol.

8. Composition according to any one of the claims 1 to 6, characterized in that it comprises at least glyceryl mono- and/or distearate and sodium stearate and/or potassium stearate.

9. Composition according to any one of the preceding claims, characterized in that it comprises at least one anionic surfactant present in free form in the composition.

10. Composition according to any one of the preceding claims, characterized in that the surfactant or surfactants with HLB greater than or equal to 12, present in free form in the composition, are present in a content in the range from 0.05 to 5 wt.%, preferably from 0.1 to 3%, and more preferably from 0.2 to 2 wt.%, relative to the total weight of the composition.

11. Composition according to any one of the preceding claims, characterized in that it is in the form of a mascara or of a foundation composition.

12. Cosmetic method of make-up and/or of non-therapeutic care of keratinous materials, in particular of the eyelashes or of the skin, comprising at least the application on
5 said keratinous materials of a composition as defined according to any one of Claims 1 to 11.

13. Use in a composition comprising at least one oil phase dispersed in an aqueous phase, of a combination of at least (i) an anionic or non-ionic surfactant with HLB greater than or equal to 12 as defined according to any one of Claims 1, 6 and 7, said
10 surfactant being present in free form in the composition, and of at least (ii) a pigment coated with at least one compound as defined according to any one of Claims 1 to 3, for improving the stability and/or the fineness of the emulsion and/or the dispersion of said pigments.