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(54) **Title**: SOLID ANHYDROUS COSMETIC COMPOSITION

(57) **Abstract**: The present invention relates especially to a solid anhydrous cosmetic composition comprising at least: - a polymeric agent thickening of an aqueous phase chosen from polymers derived from 2-acrylamidomethylpropanesulfonic acid, polymers derived from acrylamide, acrylic acid-based polymers derived from acrylic acid and polyether derivatives, and mixtures thereof; - a C_2-C_{32} polyol; and -hollow particles, the said composition comprising at least 15% by weight of pulverulent phase relative to its total weight.

Solid anhydrous cosmetic composition

The present invention relates to a solid anhydrous cosmetic composition, in particular a care, hygiene and/or makeup composition for a keratin material, which can be used as such in its original form, i.e. solid, but which also lends itself to conversion into a liquid cosmetic product after it has been placed in contact with a physiologically acceptable solvent phase, and in particular an aqueous phase.

In particular, an anhydrous composition according to the invention may be any type of cosmetic composition such as a foundation, a face powder, an eye shadow, a concealer product, a blusher, a lipstick, a lip balm, a lip gloss, a lip pencil, an eye pencil, an eyeliner, a mascara, a body makeup product, a skin colouring product, a care product such as a care cream, a tinted cream or an antisun product, preferably a foundation.

A composition of the invention is especially a composition intended to be applied to a keratin material, in particular the skin and more particularly facial skin.

Cosmetic compositions, especially foundations, are commonly used to give the skin an aesthetic colour, but also to hide skin imperfections such as redness and/or marks. In this regard, many formulations have been developed to date.

There is currently a major trend in this respect towards developing anhydrous compositions. Specifically, the absence of water has the significant advantage of making it possible to dispense with the presence of the preserving agents usually required in order to prevent potential contamination, especially microbial or bacterial contamination, of water-based cosmetic formulations and thus to substantially reduce the risk of side reactions often associated with the presence of these preserving agents.

However, it turns out that such anhydrous cosmetic compositions, and in particular foundations, have cosmetic properties that are not entirely satisfactory, in the sense that they are either too powdery or too greasy.

Moreover, it is found that users are not entirely satisfied with such compositions in terms of comfort and moisturization.

There thus remains a need for anhydrous cosmetic compositions free of preserving agents, which do not have the abovementioned drawbacks.

The present invention is specifically directed towards meeting this expectation.

Thus, according to one of its aspects, a subject of the invention is a solid anhydrous cosmetic composition comprising at least:

- a polymeric agent thickening of an aqueous phase chosen from polymers derived from 2-acrylamidomethylpropanesulfonic acid, polymers derived from acrylamide, polymers derived from acrylic acid and polyether derivatives, and mixtures thereof;
- a C_2-C_{32} polyol; and
- hollow particles,

the said composition comprising at least 15 % by weight of pulverulent phase relative to its total weight.

For the purposes of the present invention, the term "anhydrous" refers to a composition comprising a content of less than or equal to 0.5% by weight of water relative to the total weight of the said composition. Where appropriate, such small amounts of water may especially be introduced by ingredients of the composition that may contain residual amounts thereof.

Preferably, an anhydrous composition according to the invention is totally free of water.

According to one advantageous embodiment, an anhydrous composition according to the invention comprises at least one fatty phase that is liquid at room temperature and atmospheric pressure, and especially at least one oil as mentioned below.

As emerges from the examples that follow, compositions in accordance with the invention prove to be advantageous in several respects.

First, a composition combining the abovementioned compounds proves to be compatible for use, in its native form, i.e. in an undiluted form, as a cosmetic makeup, hygiene and/or care product. Thus, unexpectedly, a composition according to the invention proves to be easy for the user to take up, spreads easily on keratin material, in particular the skin, and the makeup deposit formed is moreover entirely satisfactory in terms of comfort and moisturization.

By virtue of its anhydrous nature, such a composition also has the advantage of satisfying a consumer expectation in terms of cosmetic products that are "nomad" in the sense that they can be easily stored and transported under all conditions.

In addition, the inventors have observed that an anhydrous composition as defined above is suitable for conversion into a liquid cosmetic product of emulsion or dispersion type after being placed in contact with at least one distinct liquid composition comprising at least one aqueous phase, especially water.

Thus, according to another of its aspects, a subject of the present invention is an extemporaneous cosmetic product comprising at least:

- a first solid anhydrous composition according to the invention; and
- a second liquid composition comprising at least one aqueous phase.

Either of the first and second compositions of the invention may also comprise a physiologically acceptable medium.

The term “physiologically acceptable medium” is intended to denote a medium that is particularly suitable for applying a product of the invention to keratin materials, especially the skin and more particularly facial skin.

The physiologically acceptable medium is generally adapted to the nature of the support onto which the product is to be applied, and also to the aspect in which the solid anhydrous composition, or the product, of the invention is to be conditioned.

For the purposes of the present invention, the term “keratin material” is intended to cover the skin, mucous membranes such as the lips, the nails and keratin fibres, such as the eyelashes and the hair. The skin and the lips, in particular facial skin, are most particularly considered according to the invention.

In the context of the present invention, the terms “solid anhydrous composition” and “first composition” are used indiscriminantly.

Similarly, the terms "liquid composition comprising at least one aqueous phase" and "second composition" are used indiscriminantly.

A subject of the present invention is also a cosmetic process comprising at least the steps consisting in:

a) providing at least a first solid anhydrous composition according to the invention;

b) mixing at least part of the said first composition with at least part of a second composition comprising at least one aqueous phase; and

c) applying at least part of the mixture obtained in b) to the surface of a keratin material, in particular the skin.

According to one particular embodiment, steps b) and c) of the process described above may be performed simultaneously.

According to one particular embodiment, the first and second compositions are conditioned separately in the same conditioning article.

A - SOLID ANHYDROUS COMPOSITION IN ACCORDANCE WITH THE INVENTION

As emerges from the foregoing, the compositions under consideration according to the invention have a "solid" texture.

The term "solid" characterizes the state of the composition at room temperature (25°C) and at atmospheric pressure (760 mmHg), i.e. a composition of sufficiently high consistency to conserve its form during storage.

Advantageously, a composition according to the invention may have a pasty texture.

This texture may especially be characterized by minimal strength, also known as the hardness, manifested by the compositions according to the invention when they are subjected to a test of penetration with a cylindrical spindle, this test clearly falling within the routine competence of a person skilled in the art.

For the purposes of the present invention, the term "hardness" is understood to mean the maximum penetration force obtained during the operation described below and expressed in grams.

It is measured at 20°C using a texturometer sold under the name TAXT2i by the company RHEO, equipped with a cylindrical spindle, by measuring the change in force (compressive force or penetration force) (F) as a function of time.

A sample of the composition to be characterized is introduced into a crucible with a thickness at least equal to 20 mm and a surface area at least equal to 15 cm^2.

The sample is thermostatically maintained at 20°C. Nine measurements are taken for a same composition, either at different locations evenly distributed and spaced out over the sample, or on different samples for a same composition. The average of these nine measurements indicates the hardness of the composition with a 95% confidence interval (P0.5R). Thus, advantageously, a composition according to the invention may have, at a temperature of 20°C, a hardness of greater than or equal to 100 g, or better still greater than or equal to 150 g, when it undergoes penetration, to a depth of 5 mm, of a cylindrical spindle 12.7 mm in diameter (P0.5R).

I - Polymeric agent thickening of an aqueous phase

The presence of such a compound is advantageous in the sense that it can instantly thicken the said solid anhydrous composition and emulsify the liquid fatty phase of this composition after the said solid anhydrous composition has been placed in contact with a distinct liquid composition comprising at least one aqueous phase, especially water.

More specifically, the invention especially exploits, firstly, the poor dissolution properties of such a compound in a fatty phase and, secondly, its ability to dissolve or disperse rapidly in an aqueous phase, for which, in contrast, it has high affinity.

As stated above, a polymeric agent in accordance with the invention is a thickening and advantageously emulsifying polymer.

It may advantageously be used according to the invention in the form of a non-pulverulent liquid formulation, so as to be hydrated very quickly.

Advantageously, a solid anhydrous composition according to the invention may comprise from 0.1% to 10% by weight, preferably from 0.2% to 5% by weight and better still from 0.5% to 3% by weight of polymeric agent(s) thickening of an aqueous phase relative to the total weight of the said composition.

The term "polymeric agent thickening of an aqueous phase" means a polymer which, when introduced as an aqueous 0.05% (by weight) solution, makes it possible to reduce the surface tension of water at 25°C to a value of less than 50 mN/m and preferably less than 40 mN/m.

The term “polymeric agent thickening of an aqueous phase” means a polymer which, when introduced into water at a concentration equal to 1% by weight, gives a macroscopically homogeneous thickened solution whose light transmittance, at a wavelength equal to 500 nm, through a sample 1 cm thick, is at least 10%, which corresponds to an absorbance [abs = -log(transmittance)] of less than 1.5.

As stated above, a polymeric agent thickening of an aqueous phase in accordance with the invention may be chosen from polymers derived from 2-acrylamidomethylpropanesulfonic acid (AMPS), polymers derived from acrylamide, polymers derived from acrylic acid and polyether derivatives, and mixtures thereof;

The polymeric agents in accordance with the invention, especially the polymers derived from AMPS and the polymers derived from acrylic acid, generally have a weight-average molar mass ranging from 50 000 to 10 000 000, more preferentially from 100 000 to 8 000 000 and even more preferentially from 200 000 to 3 000 000.

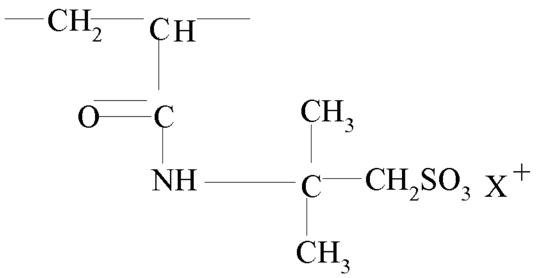
The polymers in accordance with the invention, especially the polymers derived from AMPS and the polymers derived from acrylic acid, are preferentially partially or totally neutralized with a mineral base (for instance sodium hydroxide, potassium hydroxide or aqueous ammonia) or with an organic base such as monoethanolamine, diethanolamine, triethanolamine, aminomethylpropanediol, N-methylglucamine, or basic amino acids, for instance arginine and lysine, and mixtures thereof.

The polymeric agents according to the invention, especially the polymers derived from AMPS and the polymers derived from acrylic acid, may or may not be crosslinked.

a) <u>Polymers derived from AMPS (AcrylamidoMethylPropaneSulfonic)</u>

The amphiphilic water-soluble or water-dispersible polymer according to the invention is especially a polymer derived from AMPS. The polymers derived from AMPS comprise:

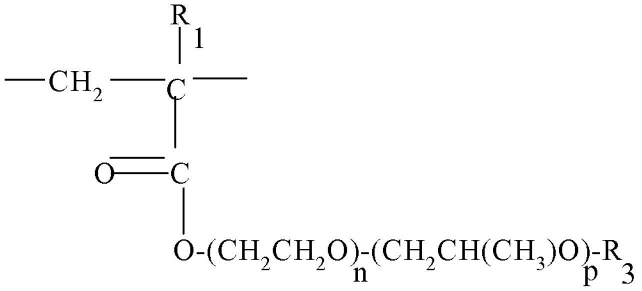
- from 80 mol% to 99 mol% of 2-acrylamido-2-methylpropanesulfonic acid (AMPS) units of formula (1) below:



(1)

in which X^+ is a proton, an alkali metal cation, an alkaline-earth metal cation or an ammonium ion; and

- 1 mol% to 20 mol% and preferably from 1 mol% to 15 mol% of units of formula (2) below:



$$-CH_2-\overset{\overset{R_1}{|}}{C}(-)-C(=O)-O-(CH_2CH_2O)_n-(CH_2CH(CH_3)O)_p-R_3 \qquad (2)$$

in which n and p, independently of each other, denote a number of moles and ranges from 0 to 30 and preferably from 1 to 20, with the proviso that n + p is less than or equal to 30, preferably less than 25 and better still less than 20; R_1 denotes a hydrogen atom or a linear or branched C_1-C_6 alkyl radical (preferably methyl) and R_3 denotes a linear or branched alkyl comprising m carbon atoms, with m ranging from 6 to 30 and preferably from 10 to 25.

These polymers according to the invention may be obtained according to the standard free-radical polymerization processes in the presence of one or more initiators such as, for example, azobisisobutyronitrile (AIBN), azobisdimethylvaleronitrile, 2,2-azobis[2-amidinopropane] hydrochloride (ABAH = 2,2-azoBis-[2-Amidinopropane] hydrochloride), organic peroxides such as dilauryl peroxide, benzoyl peroxide, tert-butyl hydroperoxide, etc., mineral peroxide compounds such as potassium persulfate or ammonium persulfate, or H_2O_2 optionally in the presence of reducing agents.

The polymers are obtained especially by free-radical polymerization in tert-butanol medium from which they precipitate. Using polymerization in tert-butanol, it is possible to obtain a size distribution of the polymer particles that is particularly favourable for its uses.

The polymerization reaction may be performed at a temperature of between 0 and 150°C, preferably between 20 and 100°C, either at atmospheric pressure or under reduced pressure. It may also be performed under inert atmosphere, and preferably under nitrogen.

It is thus possible to use the polymers prepared from 2-acrylamido-2-methylpropanesulfonic acid (AMPS), or a sodium or ammonium salt thereof, with an ester of (meth)acrylic acid and:

- of a C_{10}-C_{18} alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol C-080® from the company Clariant),
- of a C_{11} oxo alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol UD-080® from the company Clariant),
- of a C_{11} oxo alcohol oxyethylenated with 7 mol of ethylene oxide (Genapol UD-070® from the company Clariant),
- of a C_{12}-C_{14} alcohol oxyethylenated with 7 mol of ethylene oxide (Genapol LA-070® from the company Clariant),
- of a C_{12}-C_{14} alcohol oxyethylenated with 9 mol of ethylene oxide (Genapol LA-090® from the company Clariant),
- of a C_{12}-C_{14} alcohol oxyethylenated with 11 mol of ethylene oxide (Genapol LA-110® from the company Clariant),
- of a C_{16}-C_{18} alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol T-080® from the company Clariant),
- of a C_{16}-C_{18} alcohol oxyethylenated with 11 mol of ethylene oxide (Genapol T-110® from the company Clariant),
- of a C_{16}-C_{18} alcohol oxyethylenated with 15 mol of ethylene oxide (Genapol T-150® from the company Clariant),
- of a C_{16}-C_{18} alcohol oxyethylenated with 20 mol of ethylene oxide (Genapol T-200® from the company Clariant),
- of a C_{16}-C_{18} alcohol oxyethylenated with 25 mol of ethylene oxide (Genapol T-250® from the company Clariant),
- of a C_{18}-C_{22} alcohol oxyethylenated with 25 mol of ethylene oxide,
- of a C_{16}-C_{18} iso-alcohol oxyethylenated with 25 mol of ethylene oxide.

According to one preferred embodiment, the polymer is a copolymer of AMPS and of a C_{16}-C_{18} alcohol methacrylate comprising from 6 to 25 mol of oxyethylene groups, obtained from methacrylic acid or a methacrylic acid salt and from a C_{16}-C_{18} alcohol oxyethylenated with 6 to 25 mol of ethylene oxide.

The polymer may also be a copolymer of AMPS and of a C_{12}-C_{14} alcohol methacrylate comprising from 6 to 25 mol of oxyethylene groups, obtained from methacrylic acid or a methacrylic acid salt and from a C_{12}-C_{14} alcohol oxyethylenated with 6 to 25 mol of ethylene oxide.

As polymers of AMPS type that are preferred according to the present invention, mention may be made of:

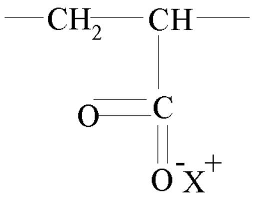
- the non-crosslinked copolymer obtained from 92.65 mol% of AMPS and 7.35 mol% of a C_{16}-C_{18} alcohol methacrylate comprising 8 oxyethylene groups (Genapol T-080®),
- the non-crosslinked copolymer obtained from 91.5 mol% of AMPS and 8.5 mol% of a C_{12}-C_{14} alcohol methacrylate comprising 7 oxyethylene groups (Genapol LA-070®),
- the crosslinked copolymer obtained from 96.45 mol% of AMPS and 3.55 mol% of a C_{16}-C_{18} alcohol methacrylate comprising 25 oxyethylene groups (Genapol T-250®), the crosslinking agent is trimethylolpropane triacrylate,
- the crosslinked copolymer obtained from AMPS and from a C_{22} alcohol methacrylate comprising 25 oxyethylene groups; this polymer is sold under the name Aristoflex HMB® by the company Clariant,
- the acrylamide/sodium 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonate (AMPS) copolymer such as Simulgel 600® in the form of an emulsion containing polysorbate 80 as surfactant and containing isohexadecane as oil phase, sold by the company SEPPIC, or alternatively Simulgel EG®, Simulgel A® and Simulgel 501® sold by the same company.

Simulgel 600® is described especially in document FR 2 785 801. It is more specifically a reverse latex. The AMPS polyelectrolyte is 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid partially or totally salified especially in sodium salt or ammonium salt form, to a proportion of from 30 mol% to 50 mol% in the mixture comprising the AMPS and an acrylamide, which is itself in a proportion of 50% to 70%.

b) <u>Polymers derived from acrylic acid</u>

The polymeric agents according to the invention may also be chosen from acrylic acid or methacrylic acid derivatives. These polymers may comprise:

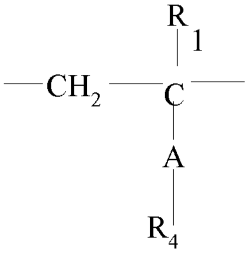
- from 50 mol% to 99 mol% of acrylic acid (AA) units of formula (3) below:



$$-CH_2-CH(-C(=O)-O^-X^+)- \quad (3)$$

in which X^+ is a proton, an alkali metal cation, an alkaline-earth metal cation or an ammonium ion; and

- 1 mol% to 20 mol% and preferably from 1 mol% to 15 mol% of units of formula (4) below:



$$-CH_2-C(R_1)(-A-R_4)- \quad (4)$$

in which R_1 denotes a hydrogen atom or a linear or branched C_1-C_6 alkyl radical (preferably methyl), A denotes an ester or amide group or an oxygen atom and R_4 denotes a linear or branched alkyl comprising m carbon atoms with m ranging from 6 to 30 and preferably from 10 to 25.

As polymers derived from acrylic acid that are preferred according to the present invention, mention may be made of:

- the non-crosslinked copolymer obtained from (meth)acrylic acid and steareth-20 methacrylate, sold under the name Aculyn 22® by the company Röhm & Haas,
- the non-crosslinked copolymer obtained from (meth)acrylic acid and laureth-25 methacrylate, sold under the name Aculyn 25® by the company Röhm & Haas,
- the non-crosslinked copolymer obtained from (meth)acrylic acid and beheneth-25 methacrylate, sold under the name Aculyn 28® by the company Röhm & Haas,
- the crosslinked copolymer obtained from (meth)acrylic acid and vinyl neododecanoate, sold under the name Aculyn 38® by the company Röhm & Haas,

- the crosslinked copolymer obtained from (meth)acrylic acid and steareth-20 methacrylate, sold under the name Aculyn 88® by the company Röhm & Haas,
- crosslinked copolymers of C_{10}-C_{30}-alkyl acrylate and of (meth)acrylic acid, for instance Pemulen TR1® and TR2® sold by the company Noveon,
- the crosslinked copolymer of acrylic acid and of vinyl isodecanoate, sold under the name Stabylen 30® by the company 3V,
- crosslinked copolymers obtained from (meth)acrylic acid and from a C_{10}-C_{30} alkyl acrylate, sold under the name Carbopol ETD 2020® and Carbopol 1382® by the company Noveon,
- the non-crosslinked copolymer obtained from (meth)acrylic acid and steareth-20 itaconate, sold under the name Structure 2001® by the company National Starch,
- the non-crosslinked copolymer obtained from (meth)acrylic acid and ceteth-20 itaconate, sold under the name Structure 3001® by the company National Starch,
- the non-crosslinked copolymer obtained from (meth)acrylic acid, aminoacrylate and C_{10}-C_{30} alkyl PEG 20 itaconate, sold under the name Structure Plus® by the company National Starch,
- the non-crosslinked copolymer obtained from (meth)acrylic acid, methyl acrylate and ethoxylated alcohol dimethyl meta-isopropenyl benzyl isocyanate, sold under the name Viscophobe DB 1000® by the company Amerchol.
- the copolymers obtained from (meth)acrylic acid and from an acrylic monomer bearing a silicone graft, described in patent EP 1 946 799.

The polymer derived from acrylic acid is in particular a non-crosslinked copolymer obtained from (meth)acrylic acid, methyl acrylate and ethoxylated alcohol dimethyl meta-isopropenyl benzyl isocyanate.

c) Polyether derivatives

The thickening polymeric agents according to the invention may also be chosen from polyether derivatives.

Within the meaning of the instant invention, the expression “polyether derivatives” encompass the polyethyleneglycol-based copolymers.

The preferred polyether derivatives are water-soluble polyurethanes and especially polyethylene glycol compounds (for example containing from 45 to 160 ethylene oxide units) bearing at the ends a C_8-C_{20} alkyl chain via a urethane bond.

Among these polymers, mention may be made of:

- the PEG-150 copolymer bearing stearyl end groups via urethane bonds, sold under the name Aculyn 46® by the company Röhm & Haas,
- the PEG-150 copolymer bearing decyl end groups via urethane bonds, sold under the name Aculyn 44® by the company Röhm & Haas,
- the PEG-136 copolymer bearing stearyl end groups via urethane bonds, sold under the name Nuvis FX 1100® by the company Elementis,
- the PEG-50 copolymer bearing stearyl end groups via urethane bonds, sold under the name Borchigel LW 44® by the company Borchers France.

The polymers derived from polyether may also bear fatty chains free of urethane bonds, for instance the product Pure Thix HH® sold by the company Sud Chemie.

The polymers derived from polyether may also be chosen from copolymers containing ethylene oxide and propylene oxide blocks, having the following formula:

$$HO(C_2H_4O)_x(C_3H_6O)_y(C_2H_4O)_zH$$

in which x, y and z are integers such that x+z ranges from 2 to 100 and y ranges from 14 to 60, and more particularly from the block copolymers of the preceding formula with an HLB value ranging from 7 to 16.

These block copolymers may be chosen especially from polyethylene glycol/polypropylene glycol/polyethylene glycol triblock polycondensates and especially from those sold under the names:

- Pluronic L42® of the preceding formula with x = z = 3 and y = 18 (HLB = 8)
- Pluronic P84® (INCI name: Poloxamer 184) of the preceding formula with x = z = 12 and y = 27 (HLB = 14)
- Pluronic P103® (INCI name: Poloxamer 333) of the preceding formula with x = z = 12 and y = 40 (HLB = 9)
- Pluronic P123® (INCI name: Poloxamer 184) of the preceding formula with x = z = 14 and y = 48 (HLB = 8)

- Pluronic L44® (INCI name: Poloxamer 124) of the preceding formula with $x = z = 5$ and $y = 21$ (HLB = 16).

Among the thickening polymeric agents in accordance with the invention, the following are preferably used:

- polyacrylic acid/alkyl acrylate copolymers of Pemulen type;
- AMPS/acrylamide copolymers especially of Sepigel® or Simulgel® type sold by the company SEPPIC; and
- AMPS/polyoxyethylenated alkyl methacrylate copolymers which are optionally crosslinked, of the type especially such as Aristoflex HMS, LNC or SNC from Clariant;
- copolymers derived from polyether especially such as Nuvis FX1100 from Elementis; and
- mixtures thereof.

Preferentially, the polymeric agent thickening of an aqueous phase is in a liquid form at room temperature.

More preferentially, they are AMPS/acrylamide copolymers especially such as Simulgel® sold by the company SEPPIC.

According to a particular preferred embodiment, the polymeric agent thickening of an aqueous phase is chosen among the polymers derived from AMPS (AcrylamidoMethylPropaneSulfonic), and more particularly from the acrylamide/sodium 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonate (AMPS) copolymer such as Simulgel 600® sold by the company SEPPIC.

Optionally, without this being mandatory, it is possible to use the polymeric agent thickening of an aqueous phase required according to the invention with at least one surfactant other than the said polymer, so as to facilitate the emulsification of the associated fatty phase.

In particular, a surfactant having at 25°C an HLB (hydrophilic-lipophilic balance), in the Griffin sense, of greater than or equal to 10 and in particular greater than or equal to 12 may be used.

A composition according to the invention may advantageously comprise a surfactant with a low HLB value, i.e. less than 12, in particular with an HLB value of between 1 and 10.

Such a surfactant can stabilize the emulsion and facilitate the application to the keratin material of the solid anhydrous composition according to the invention containing it when the said composition is applied after having been combined beforehand with an aqueous phase.

Such a surfactant will preferably be liquid at room temperature to facilitate its use and its availability after addition of the aqueous phase.

Such a surfactant may be present in the anhydrous composition according to the invention in a proportion of from 0.1% to 10% by weight and preferably from 1% to 5% by weight relative to the total weight of the said composition.

The Griffin HLB value is defined in J. Soc. Cosm. Chem. 1954 (volume 5), pages 249-256. Preferably, the co-surfactant(s) will be selected from nonionic surfactants.

Reference may be made to the document “Encyclopaedia of Chemical Technology, Kirk-Othmer”, volume 22, pp. 333-432, 3rd edition, 1979, Wiley, for the definition of the properties and (emulsifying) functions of surfactants, in particular pp. 347-377 of this reference, for anionic, amphoteric and nonionic surfactants.

II - Polyol

A solid anhydrous composition according to the invention comprises at least one C_2-C_{32} polyol.

This compound is particularly advantageous for imparting water solubility to the solid anhydrous composition containing it.

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

Preferably, a polyol in accordance with the present invention is present in liquid form at room temperature.

A polyol that is suitable for use in the invention may be a compound of linear, branched or cyclic, saturated or unsaturated alkyl type, bearing on each alkyl chain at least two –OH functions, in particular at least three –OH functions and more particularly at least four –OH functions.

The polyols that are advantageously suitable for formulating a composition according to the present invention are those especially containing from 2 to 32 carbon atoms and preferably 3 to 16 carbon atoms.

According to another embodiment, a polyol that is suitable for use in the invention may be advantageously chosen from polyethylene glycols.

According to one embodiment, a composition of the invention may comprise a mixture of polyols.

Advantageously, the polyol may be chosen, for example, from ethylene glycol, pentaerythritol, trimethylolpropane, propylene glycol, 1,3-propanediol, butylene glycol, isoprene glycol, pentylene glycol, hexylene glycol, glycerol, polyglycerols, such as glycerol oligomers, for instance diglycerol, and polyethylene glycols, and mixtures thereof.

According to one preferred embodiment of the invention, the said polyol is chosen from ethylene glycol, pentaerythritol, trimethylolpropane, propylene glycol, glycerol, polyglycerols and polyethylene glycols, and mixtures thereof.

According to one particular embodiment, the composition of the invention comprises at least propylene glycol, glycerol or a mixture thereof.

An anhydrous composition of the invention may comprise at least 10% by weight, preferably at least 15% by weight and better still from 20% to 45% by weight of polyol(s) relative to the total weight of said composition.

III- Hollow particles

The inventors have especially found that the presence of hollow particles is particularly advantageous with regard to the objectives under consideration in the invention.

Thus, the presence of such particles makes it possible to obtain a composition in the form of a sparingly dense, soft paste. With regard to their porous nature, these particles have a capacity for absorbing liquid, which makes it possible to absorb the rest of the liquid composition and thus to contribute towards the thickening of the composition containing them.

Their presence also allows the solid anhydrous composition to have good stability over time without exudation of liquid, in particular of oil.

Moreover, the oil-absorbing capacity of hollow particles in accordance with the invention is advantageously greater than 300 ml/100 g, preferably greater than 500 ml/100 g and better still greater than 1000 ml/100 g. This capacity may especially be characterized by the "wet point" outlined in detail in the following chapter relating to hydrophobic silica aerogel particles.

For the purposes of the invention, the term "particle" means a solid material that is insoluble in an aqueous phase or in a fatty phase and that has a mean size of between 0.5 and 50 microns and preferably between 1 and 30 microns.

Preferably, a composition according to the invention may comprise from 0.5% to 10% by weight and preferably from 1% to 6% by weight of hollow particles relative to the total weight of the said composition.

The hollow particles used according to the invention may be chosen especially from:

- hollow particles of an expanded polymer of vinylidene chloride and acrylonitrile or of vinylidene chloride, acrylonitrile and methyl methacrylate;
- hydrophobic silica aerogel particles; and
- mixtures thereof.

a) Hollow particles of an expanded copolymer

The particles that may be used in the present invention may be hollow particles of an expanded polymer of vinylidene chloride and acrylonitrile or of vinylidene chloride, acrylonitrile and methyl methacrylate.

These polymers may be dry or hydrated.

Preferentially, the mass per unit volume of these particles is chosen in the range from 15 to 200 kg/m^3, preferably from 40 to 120 kg/m^3 and better still from 60 to 80 kg/m^3.

The particles that are suitable for use in the invention are, for example, microspheres of expanded terpolymer of vinylidene chloride, acrylonitrile and methyl methacrylate, sold under the brand name Expancel by the company Nobel Casco and in particular under the references 551 DE 12 (particle size D(0.5) of about 12 µm and mass per unit volume of about 40 kg/m^3), 551 DE 20 (particle size D(0.5) of about 15 to 25 µm and mass per unit volume of about 60 kg/m^3), 551 DE 50 (particle size D(0.5) of about 40 µm), 461 DE 50 and 642 WE 50 of about 50 µm of particle size D(0.5), 551 DE 80 (particle size D(0.5) of about 50 to 80 µm).

It is also possible to use particles of this same expanded terpolymer with a particle size D(0.5) of about 18 µm and a mass per unit volume of about 60 to 80 kg/m^3 (Expancel EL23) or with a particle size D(0.5) of about 34 µm and a mass per unit volume of about 20 kg/m^3.

Mention may also be made of the Expancel particles 551 DE 40 d42 (particle size D(0.5) of about 30 to 50 µm and a mass per unit volume of about 42 kg/m^3), 551 DE 80 d42 (particle size D(0.5) of about 50 to 80 µm and a mass per unit volume of about 42 kg/m^3), 461 DE 20 d70 (particle size D(0.5) of about 15 to 25 µm and a mass per unit volume of about 70 kg/m^3), 461 DE 40 d25 (particle size D(0.5) of about 35 to 55 µm and a mass per unit volume of about 25 kg/m^3), 461 DE 40 d60 (particle size D(0.5) of about 20 to 40 µm and a mass per unit volume of about 60 kg/m^3), 461 DET 40 d25 (particle size D(0.5) of about 35 to 55 µm and a mass per unit volume of about 25 kg/m^3), 051 DE 40 d60 (particle size D(0.5) of about 20 to 40 µm and a mass per unit volume of about 60 kg/m^3), 091 DE 40 d30 (particle size D(0.5) of about 35 to 55 µm and a mass per unit volume of about 30 kg/m^3), 091 DE 80 d30 (particle size D(0.5) of about 60 to 90 µm and a mass per unit volume of about 30 kg/m^3).

It is also possible to use particles of a polymer of vinylidene chloride and acrylonitrile or of vinylidene chloride, acrylonitrile and methyl methacrylate in unexpanded form, for instance those sold under the brand name Expancel with the reference 551 DU 10 (particle size D(0.5) of about 10 µm) or 461 DU 15 (particle size D(0.5) of about 15 µm).

b) Hydrophobic silica aerogel hollow particles

Silica aerogels are porous materials obtained by replacing (by drying) the liquid component of a silica gel with air.

They are generally synthesized via a sol-gel process in liquid medium and then dried, usually by extraction of a supercritical fluid, the one most commonly used being supercritical CO_2. This type of drying makes it possible to avoid shrinkage of the pores and of the material. The sol-gel process and the various drying processes are described in detail in Brinker CJ., and Scherer G.W., Sol-Gel Science: New York: Academic Press, 1990.

The hydrophobic silica aerogel particles that may be used in the present invention have a specific surface area per unit of mass (S_M) ranging from 500 to 1500 m^2/g, preferably from 600 to 1200 m^2/g and better still from 600 to 800 m^2/g, and a size expressed as the mean volume diameter (D[0.5]), ranging from 1 to 1500 μm, better still from 1 to 1000 μm, preferably from 1 to 100 μm, in particular from 1 to 30 μm, more preferably from 5 to 25 μm, better still from 5 to 20 μm and even better still from 5 to 15 μm.

According to one embodiment, the hydrophobic silica aerogel particles that may be used in the present invention have a size expressed as the mean volume diameter (D[0.5]) ranging from 1 to 30 μm, preferably from 5 to 25 μm, better still from 5 to 20 μm and even better still from 5 to 15 μm.

The specific surface area per unit of mass may be determined via the BET (Brunauer-Emmett-Teller) nitrogen absorption method described in the *Journal of the American Chemical Society*, vol. 60, page 309, February 1938 and corresponding to the international standard ISO 5794/1 (appendix D). The BET specific surface area corresponds to the total specific surface area of the particles under consideration.

The size of the hydrophobic silica aerogel particles may be measured by static light scattering using a commercial granulometer such as the MasterSizer 2000 machine from Malvern. The data are processed on the basis of the Mie scattering theory. This theory, which is exact for isotropic particles, makes it possible to determine, in the case of non-spherical particles, an "effective" particle diameter. This theory is especially described in the publication by Van de Hulst, H.C., "Light Scattering by Small Particles," Chapters 9 and 10, Wiley, New York, 1957.

According to one advantageous embodiment, the hydrophobic silica aerogel particles used in the present invention have a specific surface area per unit of mass (S_M) ranging from 600 to 800 m^2/g and a size expressed as the mean volume diameter (D[0.5]) ranging from 5 to 20 μm and better still from 5 to 15 μm.

The hydrophobic silica aerogel particles used in the present invention may advantageously have a tamped density ρ ranging from 0.04 g/cm^3 to 0.10 g/cm^3 and preferably from 0.05 g/cm^3 to 0.08 g/cm^3.

In the context of the present invention, this density, known as the tamped density, may be assessed according to the following protocol:

40 g of powder are poured into a measuring cylinder; the measuring cylinder is then placed on a Stav 2003 machine from Stampf Volumeter; the measuring cylinder is then subjected to a series of 2500 packing motions (this operation is repeated until the difference in volume between two consecutive tests is less than 2%); the final volume Vf of packed powder is then measured directly on the measuring cylinder. The tamped density is determined by the ratio m/Vf, in this instance 40/Vf (Vf being expressed in cm^3 and m in g).

According to one embodiment, the hydrophobic silica aerogel particles that may be used in the present invention have a specific surface area per unit of volume S_V ranging from 5 to 60 m^2/cm^3, preferably from 10 to 50 m^2/cm^3 and better still from 15 to 40 m^2/cm^3.

The specific surface area per unit of volume is given by the relationship: $S_V = S_M.\rho$; where ρ is the tamped density expressed in g/cm^3 and S_M is the specific surface area per unit of mass expressed in m^2/g, as defined above.

Preferably, the hydrophobic silica aerogel particles according to the invention have an oil-absorbing capacity, measured at the wet point, ranging from 5 to 18 ml/g, preferably from 6 to 15 ml/g and better still from 8 to 12 ml/g.

The oil-absorbing capacity measured at the wet point, noted Wp, corresponds to the amount of water that needs to be added to 100 g of particle in order to obtain a homogeneous paste.

It is measured according to the wet point method or the method for determining the oil uptake of a powder described in standard NF T 30-022. It corresponds to the amount of oil adsorbed onto the available surface of the powder and/or absorbed by the powder by measuring the wet point, described below:

An amount m = 2 g of powder is placed on a glass plate, and the oil (isononyl isononanoate) is then added dropwise. After addition of 4 to 5 drops of oil to the powder, mixing is performed using a spatula, and addition of oil is continued until a conglomerate of oil and powder has formed. At this point, the oil is added one drop at a time and the mixture is then triturated with the spatula. The addition of oil is stopped when a firm, smooth paste is obtained. This paste must be able to be spread on the glass plate without cracking or forming lumps. The volume Vs (expressed in ml) of oil used is then noted.

The oil uptake corresponds to the ratio Vs/m.

The hydrophobic silica aerogel particles that may be used according to the present invention are preferably of silylated silica type (INCI name: silica silylate).

The term "hydrophobic silica" means any silica whose surface is treated with silylating agents, for example halogenated silanes such as alkylchlorosilanes, siloxanes, in particular dimethylsiloxanes such as hexamethyldisiloxane, or silazanes, so as to functionalize the OH groups with silyl groups Si-Rn, for example trimethylsilyl groups.

As regards the preparation of hydrophobic silica aerogels particles that have been surface-modified by silylation, reference may be made to document US 7 470 725.

Use will be made in particular of hydrophobic silica aerogels particles surface-modified with trimethylsilyl groups (trimethylsiloxyl silica).

As hydrophobic silica aerogel particles that may be used in the invention, examples that may be mentioned include the aerogel sold under the name VM-2260 (INCI name: Silica silylate), by the company Dow Corning, the particles of which have a mean size of about 1000 microns and a specific surface area per unit of mass ranging from 600 to 800 m^2/g.

Mention may also be made of the aerogels sold by the company Cabot under the references Aerogel TLD 201, Aerogel OGD 201, Aerogel TLD 203, and ENOVA AEROGEL MT 1100.

Use will be made more particularly of the aerogel sold under the name VM-2270 (INCI name: Silica silylate), by the company Dow Corning, the particles of which have a mean size ranging from 5-15 microns and a specific surface area per unit of mass ranging from 600 to 800 m^2/g (oil uptake equal to 1080 ml/100 g).

Advantageously, the hollow particles in accordance with the invention are at least partly formed from hydrophobic silica aerogel particles, preferably those with a specific surface area per unit of mass (S_M) ranging from 500 to 1500 m^2/g and preferably from 600 to 1200 m^2/g, and a size expressed as the mean volume diameter (D[0.5]), ranging from 1 to 1500 μm, better still from 1 to 1000 μm, preferably from 1 to 100 μm, in particular from 1 to 30 µm, more preferably from 5 to 25 µm, better still from 5 to 20 µm and even better still from 5 to 15 µm.

The use of the hollow particles according to the invention, in particular of hydrophobic silica aerogel particles, also advantageously makes it possible to improve the remanence of the cosmetic properties afforded by the composition on keratin materials, in particular the skin, especially by limiting the impact of perspiration on the skin.

The remanence properties over time of the colour, the matting effect and/or the homogeneity of the deposit on the skin may thus be improved.

IV - Pulverulent phase

As stated previously, an anhydrous composition according to the invention comprises at least 15% by weight of pulverulent phase relative to the total weight of the said composition.

For the purposes of the present invention, this pulverulent phase may comprise, besides the hollow particles required according to the invention, at least one particulate material chosen from fillers; pigments; nacres; particles with a metallic tint; and mixtures thereof.

Thus, an anhydrous composition according to the invention advantageously comprises from 15% to 70% by weight, preferably from 20% to 60% by weight and better still from 25% to 50% by weight of pulverulent phase relative to the total weight of the said composition.

For the purposes of the present invention, the term “fillers” should be understood as meaning colourless or white solid particles of any form, which are in an insoluble and dispersed form in the medium of the composition.

These fillers, of mineral or organic, natural or synthetic nature, give the composition containing them softness and give the makeup result a matt effect and uniformity.

A composition according to the invention may comprise from 0.5% to 50% by weight and preferably from 1% to 30% by weight of fillers relative to the total weight of the said composition.

This amount of fillers does not include the amount of hollow particles required in parallel according to the invention.

Among the mineral fillers that may be used in the compositions according to the invention, mention may be made of natural or synthetic mica, talc, kaolin, natural or synthetic sericite, silica, hydroxyapatite, boron nitride, calcium carbonate, hollow silica microspheres (Silica beads from Maprecos), glass or ceramic microcapsules; composites of silica and titanium dioxide, such as the TSG series sold by Nippon Sheet Glass, and mixtures thereof.

Among the organic fillers that may be used in the compositions according to the invention, mention may be made of polyamide powders (Nylon® Orgasol from Atochem), poly-β-alanine powder and polyethylene powder, polytetrafluoroethylene (Teflon®) powder, lauroyllysine, tetrafluoroethylene polymer powders, spherical powders of crosslinked elastomeric organopolysiloxane, described especially in document JP-A-02-243612, such as those sold under the name Trefil Powder E 2-506C or DC9506 or DC9701 by the company Dow Corning, silicone resins, which are products of hydrolysis and polycondensation of siloxane mixtures of formulae (R)3SiOHCH3 and Si(OCH3)4, R representing an alkyl group containing from 1 to 6 carbon atoms (for example KSP100 from Shin-Etsu), silicone resin microbeads (for example Tospearl® from Toshiba), Polypore® L200 (Chemdal Corporation), polyurethane powders, in particular crosslinked polyurethane powders comprising a copolymer, the said copolymer comprising trimethylol hexyl lactone, for instance the polymer of hexamethylene diisocyanate/trimethylol hexyl lactone, sold under the name Plastic powder D-400® or Plastic Powder D-800® by the company Toshiki, and mixtures thereof.

Among the other organic fillers that may be used in the compositions according to the invention, mention may be made of starch-based or cellulose-based powders. Examples of such fillers that may be mentioned include the Dry Flo products sold by Akzo Nobel and the Cellubeads products sold by the company Daito Kasei.

Advantageously, the fillers in accordance with the invention are mineral fillers, preferably chosen from mica, sericite, kaolin, talc and silica, and mixtures thereof.

A composition according to the invention may also include particulate materials for colouring purposes.

These colouring particulate materials may be present in a proportion of from 0 to 40% by weight, preferably from 1% to 30% by weight or even 5% to 30% by weight relative to the total weight of the composition containing them.

They may especially be pigments, nacres and/or particles with metallic tint products, these materials possibly being surface-treated.

The term “pigments” should be understood as meaning white or coloured, mineral or organic particles that are insoluble in an aqueous solution, which are intended to colour and/or opacify the composition containing them.

A composition according to the invention may comprise from 0.01% to 40% by weight, preferably from 0.1% to 20% by weight and better still from 1% to 15% by weight of pigments relative to the total weight of said composition.

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

As mineral pigments that may be used in the invention, mention may be made of titanium oxide, titanium dioxide, zirconium oxide, zirconium dioxide, cerium oxide or cerium dioxide and also zinc oxide, iron oxide or chromium oxide, ferric blue, manganese violet, ultramarine blue and chromium hydrate, and mixtures thereof.

It may also be a pigment having a structure that may be, for example, of sericite/brown iron oxide/titanium dioxide/silica type. Such a pigment is sold, for example, under the reference Coverleaf NS or JS by the company Chemicals and Catalysts, and has a contrast ratio in the region of 30.

They may also be pigments having a structure that may be, for example, of silica microsphere type containing iron oxide. An example of a pigment having this structure is the product sold by the company Miyoshi under the reference PC Ball PC-LL-100 P, this pigment being constituted of silica microspheres containing yellow iron oxide.

Advantageously, the pigments in accordance with the invention are iron oxides and/or titanium dioxides.

The term “nacres” should be understood as meaning iridescent or non-iridescent coloured particles of any shape, especially produced by certain molluscs in their shell or alternatively synthesized, which have a colour effect via optical interference.

A composition of the invention may comprise from 1% to 80% by weight, preferably from 5% to 60% by weight and better still from 10% to 40% by weight of nacres relative to the total weight of said composition.

The nacres may be chosen from nacreous pigments such as titanium mica coated with an iron oxide, titanium mica coated with bismuth oxychloride, titanium mica coated with chromium oxide, titanium mica coated with an organic dye and also nacreous pigments based on bismuth oxychloride. They may also be mica particles at the surface of which are superposed at least two successive layers of metal oxides and/or of organic dyestuffs.

Examples of nacres that may also be mentioned include natural mica coated with titanium oxide, with iron oxide, with natural pigment or with bismuth oxychloride.

Among the nacres available on the market, mention may be made of the nacres Timica, Flamenco and Duochrome (based on mica) sold by the company Engelhard, the Timiron nacres sold by the company Merck, the Prestige mica-based nacres, sold by the company Eckart, and the Sunshine synthetic mica-based nacres, sold by the company Sun Chemical.

The nacres may more particularly have a yellow, pink, red, bronze, orange, brown, gold and/or coppery colour or tint.

As illustrations of nacres that may be used in the context of the present invention, mention may be made of gold-coloured nacres sold especially by the company Engelhard under the name Brilliant gold 212G (Timica), Gold 222C (Cloisonne), Sparkle gold (Timica), Gold 4504 (Chromalite) and Monarch gold 233X (Cloisonne); the bronze nacres sold especially by the company Merck under the names Bronze fine (17384) (Colorona) and Bronze (17353) (Colorona) and by the company Engelhard under the name Super bronze (Cloisonne); the orange nacres sold especially by the company Engelhard under the names Orange 363C (Cloisonne) and Orange MCR 101 (Cosmica) and by the company Merck under the names Passion orange (Colorona) and Matte orange (17449) (Microna); the brown-tinted nacres sold especially by the company Engelhard under the names Nuantique copper 340XB (Cloisonne) and Brown CL4509 (Chromalite); the nacres with a copper tint sold especially by the company Engelhard under the name Copper 340A (Timica); the nacres with a red tint sold especially by the company Merck under the name Sienna fine (17386) (Colorona); the nacres with a yellow tint sold especially by the company Engelhard under the name Yellow (4502) (Chromalite); the red-tinted nacres with a golden tint sold especially by the company Engelhard under the name Sunstone G012 (Gemtone); the pink nacres sold especially by the company Engelhard under the name Tan opale G005 (Gemtone); the black nacres with a golden tint sold especially by the company Engelhard under the name Nu antique bronze 240 AB (Timica); the blue nacres sold especially by the company Merck under the name Matte blue (17433) (Microna); the white nacres with a silvery tint sold especially by the company Merck under the name Xirona Silver; and the golden-green pinkish-orange nacres sold especially by the company Merck under the name Indian summer (Xirona), and mixtures thereof.

Advantageously, the nacres in accordance with the invention are micas coated with titanium dioxide or with iron oxide, and also bismuth oxychloride.

The term “particles with a metallic tint”, within the meaning of the present invention, denotes particles whose nature, size, structure and surface state allow them to reflect the incident light, especially in a non-iridescent manner.

A composition according to the invention may comprise from 1% to 50% by weight and preferably from 1% to 20% by weight of particles with a metallic tint relative to the total weight of said composition.

Particles with a substantially flat outer surface are also suitable, since they can, if their size, structure and surface state allow it, more easily give rise to a strong specular reflection, which may then be termed a mirror effect.

The particles with a metallic tint that may be used in the invention may, for example, reflect light in all the components of the visible region without significantly absorbing one or more wavelengths. The spectral reflectance of these particles may, for example, be greater than 70% and better still at least 80%, or even 90% or 95%, in the range 400-700 nm.

These particles generally have a thickness of less than or equal to 1 μm, especially less than or equal to 0.7 μm and in particular less than or equal to 0.5 μm.

The particles with a metallic tint that may be used in the invention are in particular chosen from:

- particles of at least one metal and/or of at least one metal derivative,

- particles comprising a monomaterial or multimaterial organic or mineral substrate, at least partially coated with at least one layer with a metallic tint comprising at least one metal and/or at least one metal derivative, and

mixtures of said particles.

Among the metals that may be present in said particles, mention may be made, for example, of Ag, Au, Cu, Al, Ni, Sn, Mg, Cr, Mo, Ti, Zr, Pt, Va, Rb, W, Zn, Ge, Te and Se, and mixtures or alloys thereof. Ag, Au, Cu, Al, Zn, Ni, Mo and Cr and mixtures or alloys thereof (for example bronzes and brasses) are preferred metals.

The term “metal derivatives” is intended to denote compounds derived from metals, especially oxides, fluorides, chlorides and sulfides.

Among the metal derivatives that may be present in said particles, mention may be made especially of metal oxides, for instance titanium oxide, especially TiO_2, iron oxide, especially Fe_2O_3, tin oxide, chromium oxide, barium sulfate and the following compounds: MgF_2, CrF_3, ZnS, ZnSe, SiO_2, Al_2O_3, MgO, Y_2O_3, SeO_3, SiO, HfO_2, ZrO_2, CeO_2, Nb_2O_5, Ta_2O_5, MoS_2, and mixtures or alloys thereof.

Illustrations of these particles that may be mentioned include aluminium particles, such as those sold under the names Starbrite 1200 EAC® by the company Siberline and Metalure® by the company Eckart.

Mention may also be made of metal powders of copper or of alloy mixtures such as the references 2844 sold by the company Radium Bronze, metallic pigments, for instance aluminium or bronze, such as those sold under the names Rotosafe 700 from the company Eckart, silica-coated aluminium particles sold under the name Visionaire Bright Silver from the company Eckart, and metal alloy particles, for instance the silica-coated bronze (alloy of copper and zinc) powders sold under the name Visionaire Bright Natural Gold from the company Eckart.

As illustrations of particles of this second type, mention may be made more particularly of:

Glass particles coated with a metallic layer, especially those described in documents JP-A-09188830, JP-A-10158450, JP-A-10158541, JP-A-07258460 and JP-A-05017710.

As illustrations of these particles comprising a glass substrate, mention may be made of those coated, respectively, with silver, gold or titanium, in the form of platelets, sold by the company Nippon Sheet Glass under the name Microglass Metashine. Particles with a silver-coated glass substrate, in the form of platelets, are sold under the name Microglass Metashine REFSX 2025 PS by the company Toyal. Particles with a glass substrate coated with nickel/chromium/molybdenum alloy are sold under the name Crystal Star GF 550 and GF 2525 by this same company. Those coated either with brown iron oxide or with titanium oxide, tin oxide or a mixture thereof, for instance those sold under the name Reflecks by the company Engelhard or those sold under the name Metashine MC 2080GP by the company Nippon Sheet Glass.

These metal-coated glass particles may be coated with silica, for instance those sold under the name Metashine series PSS1 or GPS1 by the company Nippon Sheet Glass.

Particles comprising a spherical glass substrate optionally coated with a metal, especially those sold under the name Prizmalite Microsphere by the company Prizmalite Industries.

Pigments of the Metashine 1080R range sold by the company Nippon Sheet Glass Co. Ltd are also suitable for the invention. These pigments, more particularly described in patent application JP 2001-11340, are C-Glass glass flakes comprising 65% to 72% SiO_2, coated with a layer of titanium oxide of rutile type (TiO_2). These glass flakes have a mean thickness of 1 micron and a mean size of 80 microns, i.e. a mean size/mean thickness ratio of 80. They have blue, green or yellow tints or a silver shade depending on the thickness of the TiO_2 layer.

Particles comprising a silver-coated borosilicate substrate, also known as “white nacres”.

Particles comprising a metal substrate such as aluminium, copper or bronze, in the form of platelets, are sold under the trade name Starbrite by the company Silberline and under the name Visionaire by the company Eckart.

Particles comprising a synthetic mica substrate coated with titanium dioxide, and for example particles with a size of between 80 and 100 µm, comprising a synthetic mica (fluorophlogopite) substrate coated with titanium dioxide representing 12% of the total weight of the particle, sold under the name Prominence by the company Nihon Koken.

The particles with a metallic tint may also be chosen from particles formed from a stack of at least two layers with different refractive indices. These layers may be of polymeric or metallic nature and may especially include at least one polymer layer.

Thus, the particles with a metallic effect may be particles derived from a multilayer polymer film.

The choice of materials intended to constitute the various layers of the multilayer structure is obviously made so as to give the particles thus formed the desired metallic effect.

Such particles are especially described in WO 99/36477, US 6 299 979 and US 6 387 498 and more particularly identified below in the goniochromatic section.

Advantageously, the particles with a metallic tint in accordance with the invention are particles with a spherical or non-spherical glass substrate, and also particles with a metallic substrate.

V - Liquid fatty phase

As indicated above, a solid anhydrous composition according to the invention comprises at least one fatty phase that is liquid at room temperature and atmospheric pressure, and especially at least one oil as mentioned below.

Specifically, the presence of at least one oil is advantageous insofar as it facilitates the dry application of the anhydrous composition and affords emollience when the composition is emulsified with water.

According to the present invention, the term "oil" means a water-immiscible non-aqueous compound that is liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg).

An oily phase that is suitable for preparing an anhydrous cosmetic composition according to the invention may comprise hydrocarbon-based oils, silicone oils, fluoro oils or non-fluoro oils, or mixtures thereof.

The oils may be volatile or non-volatile.

They may be of animal, plant, mineral or synthetic origin. According to one embodiment variant, oils of plant origin are preferred.

The term "volatile oil" means any non-aqueous medium that is capable of evaporating on contact with the skin or the lips in less than one hour, at room temperature and atmospheric pressure. The volatile oil is a cosmetic volatile oil, which is liquid at room temperature. More specifically, a volatile oil has an evaporation rate of between 0.01 and 200 $mg/cm^2/min$, limits inclusive.

The term "non-volatile oil" means an oil that remains on the skin or the keratin fibre at room temperature and atmospheric pressure. More specifically, a non-volatile oil has an evaporation rate strictly less than 0.01 $mg/cm^2/min$.

To measure this evaporation rate, 15 g of oil or oil mixture to be tested are placed in a crystallizing dish 7 cm in diameter, placed on a balance that is in a large chamber of about 0.3 m^3 which is temperature-regulated, at a temperature of 25°C, and hygrometry-regulated, at a relative humidity of 50%. The liquid is allowed to evaporate freely, without stirring it, while providing ventilation by means of a fan (Papst-Motoren, reference 8550 N, rotating at 2700 rpm) placed in a vertical position above the crystallizing dish containing said oil or said mixture, the blades being directed towards the crystallizing dish, 20 cm away from the bottom of the crystallizing dish. The mass of oil remaining in the crystallizing dish is measured at regular intervals. The evaporation rates are expressed in mg of oil evaporated per unit of area (cm^2) and per unit of time (minutes).

For the purposes of the present invention, the term “silicone oil” means an oil comprising at least one silicon atom, and especially at least one Si-O group.

The term “fluoro oil” means an oil comprising at least one fluorine atom.

The term “hydrocarbon-based oil” means an oil mainly containing hydrogen and carbon atoms.

The oils may optionally comprise oxygen, nitrogen, sulfur and/or phosphorus atoms, for example in the form of hydroxyl or acid radicals.

Advantageously, an anhydrous composition of the invention may comprise from 10% to 50% by weight and preferably from 20% to 40% by weight of oil(s) relative to the total weight of the said composition.

Volatile oils

The volatile oils may be chosen from hydrocarbon-based oils containing from 8 to 16 carbon atoms, and especially C_8-C_{16} branched alkanes (also known as isoparaffins), for instance isododecane (also known as 2,2,4,4,6-pentamethylheptane), isodecane and isohexadecane, for instance the oils sold under the trade names Isopar® or Permethyl®, or especially linear C_8-C_{14} alkanes.

Volatile oils that may also be used include volatile silicones, for instance volatile linear or cyclic silicone oils, especially those with a viscosity ≤ 8 centistokes (cSt) (8×10^{-6} m^2/s), and especially containing from 2 to 10 silicon atoms and in particular from 2 to 7 silicon atoms, these silicones optionally comprising alkyl or alkoxy groups containing from 1 to 10 carbon atoms. As volatile silicone oils that may be used in the invention, mention may be made especially of dimethicones with viscosities of 5 and 6 cSt, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, heptamethylhexyltrisiloxane, heptamethyloctyltrisiloxane, hexamethyldisiloxane, octamethyltrisiloxane, decamethyltetrasiloxane and dodecamethylpentasiloxane, and mixtures thereof.

Volatile fluoro oils such as nonafluoromethoxybutane or perfluoromethylcyclopentane, and mixtures thereof, may also be used.

Advantageously, a liquid fatty phase of the invention may comprise from 1% to 50% by weight, preferably from 2% to 40% by weight and better still from 5% to 30% by weight of volatile oil(s) relative to the total weight of the said liquid fatty phase.

Non-volatile oils

The non-volatile oils may be chosen especially from nonvolatile hydrocarbon-based, fluoro and/or silicone oils.

Non-volatile hydrocarbon-based oils that may especially be mentioned include:

- hydrocarbon-based oils of animal origin,
- hydrocarbon-based oils of plant origin, such as phytostearyl esters, such as phytostearyl oleate, phytostearyl isostearate and lauroyl/octyldodecyl/phytostearyl glutamate (Ajinomoto, Eldew PS203), triglycerides formed from fatty acid esters of glycerol, in particular in which the fatty acids may have chain lengths ranging from C_4 to C_{36} and especially from C_{18} to C_{36}, these oils possibly being linear or branched, and saturated or unsaturated; these oils may especially be heptanoic or octanoic triglycerides, shea oil, alfalfa oil, poppy oil, millet oil, barley oil, rye oil, candlenut oil, passionflower oil, shea butter, aloe vera oil, sweet almond oil, peach stone oil, groundnut oil, argan oil, avocado oil, baobab oil, borage oil, broccoli oil, calendula oil, camellina oil, canola oil, carrot oil, safflower oil, flax oil, rapeseed oil, cotton oil, coconut oil, marrow seed oil,

wheatgerm oil, jojoba oil, lily oil, macadamia oil, corn oil, meadowfoam oil, St John's Wort oil, monoi oil, hazelnut oil, apricot kernel oil, walnut oil, olive oil, evening primrose oil, palm oil, blackcurrant pip oil, kiwi seed oil, grapeseed oil, pistachio oil, winter squash oil, pumpkin oil, quinoa oil, musk rose oil, sesame oil, soybean oil, sunflower oil, castor oil and watermelon oil, and mixtures thereof, or alternatively caprylic/capric acid triglycerides, such as those sold by the company Stearineries Dubois or those sold under the names Miglyol 810®, 812® and 818® by the company Dynamit Nobel;

- linear or branched hydrocarbons, of mineral or synthetic origin, such as liquid paraffins and derivatives thereof, petroleum jelly, polydecenes, polybutenes, hydrogenated polyisobutene such as Parleam, and squalane,

- synthetic ethers containing from 10 to 40 carbon atoms, such as dicaprylyl ether;

- synthetic esters, for instance oils of formula R_1COOR_2, in which R_1 represents a linear or branched fatty acid residue containing from 1 to 40 carbon atoms, and R_2 represents a hydrocarbon-based chain that is especially branched, containing from 1 to 40 carbon atoms provided that $R_1 + R_2 \geq 10$. The esters may be chosen especially from esters of alcohol and of fatty acid, for instance cetostearyl octanoate, esters of isopropyl alcohol, such as isopropyl myristate, isopropyl palmitate, ethyl palmitate, 2-ethylhexyl palmitate, isopropyl stearate, octyl stearate, hydroxylated esters, for instance isostearyl lactate, octyl hydroxystearate, alcohol or polyalcohol ricinoleates, hexyl laurate, neopentanoic acid esters, for instance isodecyl neopentanoate, isotridecyl neopentanoate, and isononanoic acid esters, for instance isononyl isononanoate and isotridecyl isononanoate.

- polyol esters and pentaerythritol esters, for instance dipentaerythrityl tetrahydroxystearate/tetraisostearate,

- esters of diol dimers and of diacid dimers, such as Lusplan DD-DA5® and Lusplan DD-DA7® sold by the company Nippon Fine Chemical and described in patent application US 2004-175 338,

- copolymers of a diol dimer and of a diacid dimer and esters thereof, such as dilinoleyl diol dimer/dilinoleic dimer copolymers and esters thereof, for instance Plandool-G,

- copolymers of polyols and of diacid dimers, and esters thereof, such as Hailuscent ISDA or the dilinoleic acid/butanediol copolymer,

- fatty alcohols that are liquid at room temperature, with a branched and/or unsaturated carbon-based chain containing from 12 to 26 carbon atoms, for instance 2-octyldodecanol, isostearyl alcohol and oleyl alcohol,

- C_{12}-C_{22} higher fatty acids, such as oleic acid, linoleic acid or linolenic acid, and mixtures thereof,

- dialkyl carbonates, the two alkyl chains possibly being identical or different, such as dicaprylyl carbonate sold under the name Cetiol CC® by Cognis,

- oils of high molar mass, in particular with a molar mass ranging from about 400 to about 2000 g/mol and in particular from about 650 to about 1600 g/mol. As oils of high molar mass that may be used in the present invention, mention may be made especially of linear fatty acid esters with a total carbon number ranging from 35 to 70, for instance pentaerythrityl tetrapelargonate, hydroxylated esters, such as polyglyceryl-2 triisostearate, aromatic esters, such as tridecyl trimellitate, esters of branched C_{24}-C_{28} fatty alcohols or fatty acids, such as those described in patent US 6 491 927, and pentaerythritol esters, and especially triisoarachidyl citrate, glyceryl triisostearate, glyceryl tris(2-decyl)tetradecanoate, polyglyceryl-2 tetraisostearate or pentaerythrityl tetrakis(2-decyl)tetradecanoate; phenyl silicones, such as Belsil PDM 1000 from the company Wacker (MM = 9000 g/mol), non-volatile polydimethylsiloxanes (PDMS), PDMSs comprising alkyl or alkoxy groups that are pendent and/or at the end of the silicone chain, these groups each containing from 2 to 24 carbon atoms, phenyl silicones, for instance phenyl trimethicones, phenyl dimethicones, phenyl trimethylsiloxy diphenylsiloxanes, diphenyl dimethicones, diphenyl methyldiphenyl trisiloxanes and 2-phenylethyl trimethylsiloxysilicates, dimethicones or phenyl trimethicones with a viscosity of less than or equal to 100 cSt, and mixtures thereof; and also mixtures of these various oils, and

- mixtures thereof.

According to one preferred embodiment, the fatty phase of the anhydrous composition of the invention comprises at least one non-volatile oil chosen from non-volatile hydrocarbon-based oils such as:

- hydrocarbon-based oils of animal origin;
- hydrocarbon-based oils of plant origin;

- synthetic ethers containing from 10 to 40 carbon atoms;
- synthetic esters, for instance oils of formula R_1COOR_2, in which R_1 represents a linear or branched fatty acid residue containing from 1 to 40 carbon atoms, and R_2 represents a hydrocarbon-based chain that is especially branched, containing from 1 to 40 carbon atoms provided that $R_1 + R_2 \geq 10$;
- polyol esters and pentaerythritol esters;
- fatty alcohols that are liquid at room temperature, with a branched and/or unsaturated carbon-based chain containing from 12 to 26 carbon atoms;
- dialkyl carbonates, the two alkyl chains possibly being identical or different;
- oils of high molar mass; and
- mixtures thereof.

Advantageously, a liquid fatty phase of the invention may comprise at least 40% by weight, preferably at least 60% by weight or even 100% by weight of non-volatile oil(s) relative to the total weight of the said liquid fatty phase.

According to one embodiment variant, a solid anhydrous composition according to the invention may comprise at least from 15% to 35% and in particular from 20% to 30% by weight of oil(s), from 10% to 50% by weight and in particular from 20% to 40% by weight of polyol(s), from 0.2% to 5% by weight and in particular from 0.5% to 3% by weight of thickening polymer(s), more particularly of AMPS and/or acrylate copolymer type, and from 1% to 6% by weight and in particular from 2% to 5% by weight of polymeric hollow particles preferably chosen from hydrophobic silica aerogel particles, relative to the total weight of the said composition.

More particularly, a solid anhydrous composition according to the invention comprises at least 15% by weight and more particularly at least 20% by weight of pulverulent phase relative to the total weight of the said composition.

According to one embodiment of the invention, the first composition of the invention is in the form of a soft paste or a solid composition.

B – SECOND COMPOSITION

As stated previously, a solid anhydrous composition in accordance with the invention may be used in the form combined with a "second composition", i.e. a liquid composition comprising at least one aqueous phase.

The presence of this second composition is advantageous in the sense that it enables the hydration, especially just before use, of the first composition and also the formation of a liquid cosmetic product that has satisfactory comfort and moisturizing properties and that remains endowed with satisfactory harmlessness even though being free of preserving agent.

The placing in contact and mixing of the first composition with this second composition brings about the instant dispersion or emulsification of the said first composition.

The aqueous phase of this second composition comprises water and, where appropriate, a water-soluble solvent.

In the present invention, the term “water-soluble solvent” denotes a compound that is liquid at room temperature and water-miscible (miscibility with water of greater than 50% by weight at 25°C and atmospheric pressure).

The water-soluble solvents that may be used in the second composition of the invention may also be volatile.

Among the water-soluble solvents that may be used in the second composition in accordance with the invention, mention may be made especially of lower monoalcohols containing from 1 to 5 carbon atoms such as ethanol and isopropanol, glycols containing from 2 to 8 carbon atoms such as ethylene glycol, propylene glycol, 1,3-butylene glycol and dipropylene glycol, C_3 and C_4 ketones and C_2-C_4 aldehydes.

The aqueous phase (water and optionally the water-miscible solvent) may be present in the second composition in a content ranging from 10% to 100% by weight, preferably from 20% to 95% by weight and better still from 30% to 80% by weight relative to the total weight of the said composition.

According to a first embodiment, the second composition may be a composition comprising more than 80% by weight, preferably more than 85% by weight and better still more than 90% by weight of water relative to the total weight of the said composition. Such a composition may especially take the form of an aqueous solution, an aqueous gel or an emulsion.

According to one variant of this embodiment, the second composition of the invention is water, especially water at room temperature.

According to another embodiment, the second composition of the invention is a cosmetic composition comprising at least one aqueous phase that is compatible with the first composition of the invention, in particular a care, hygiene and/or makeup composition for a keratin material.

Still according to this embodiment, the second composition may be in the form of an emulsion.

The second composition according to the invention may in particular be in the form of an emulsion obtained by dispersing a fatty phase in an aqueous phase (O/W), of liquid or semi-liquid consistency of the milk type, or of soft, semi-solid or solid consistency of the cream or gel type, or alternatively a multiple emulsion (W/O/W). These compositions are prepared according to the usual methods.

According to one particular variant of this embodiment, the second composition is an O/W care cream.

A second composition according to the invention is also suitable for comprising any compound such as those under consideration in the first composition, like, for example, the liquid fatty phase.

The second composition may also comprise one or more gelling agents, which are especially hydrophilic, i.e. they are soluble or dispersible in water.

Hydrophilic gelling agents that may be mentioned in particular include water-soluble or water-dispersible thickening polymers. These polymers may be chosen especially from: modified or unmodified carboxyvinyl polymers, such as the products sold under the name Carbopol (CTFA name: Carbomer) by the company Goodrich; polyacrylates and polymethacrylates such as the products sold under the names Lubrajel and Norgel by the company Guardian or under the name Hispagel by the company Hispano Chimica; polyacrylamides; optionally crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid polymers and copolymers, for instance the poly(2-acrylamido-2-methylpropanesulfonic acid) sold by the company Clariant under the name Hostacerin AMPS (CTFA name: ammonium polyacryldimethyltauramide); crosslinked anionic copolymers of acrylamide and of AMPS, which are in the form of a W/O emulsion, such as those sold under the name Sepigel 305 (CTFA name: : Polyacrylamide/C13-14 isoparaffin/Laureth-7) and under the name Simulgel 600 (CTFA name: Acrylamide/Sodium acryloyldimethyltaurate copolymer/Isohexadecane/Polysorbate 80) by the company SEPPIC; polysaccharide biopolymers, for instance xanthan gum, guar gum, carob gum, acacia gum, scleroglucans, chitin and chitosan derivatives, carrageenans, gellans, alginates, celluloses such as microcrystalline cellulose, carboxymethylcellulose, hydroxymethylcellulose and hydroxypropylcellulose; and mixtures thereof.

For a particular care application, a second composition according to the invention may comprise at least one moisturizer (also known as a humectant).

The moisturizer(s) may be present in the second composition in a content ranging from 0.1% to 15% by weight, especially from 0.5% to 10% by weight or even from 1% to 6% by weight, relative to the total weight of the said composition.

Moisturizers or humectants that may especially be mentioned include sorbitol, polyhydric alcohols, preferably of C_2-C_8 and more preferably C_3-C_6, preferably such as glycerol, propylene glycol, 1,3-butylene glycol, pentylene glycol, hexylene glycol, dipropylene glycol, diethylene glycol and diglycerol, and mixtures thereof, glycerol and derivatives thereof, glycol ethers (especially containing from 3 to 16 carbon atoms) such as mono-, di- or tripropylene glycol (C_1-C_4)alkyl ethers, mono-, di- or triethylene glycol (C_1-C_4)alkyl ethers, urea and derivatives thereof, especially Hydrovance (2-hydroxyethylurea) sold by National Starch, lactic acids, hyaluronic acid, AHAs, BHAs, sodium pidolate, xylitol, serine, sodium lactate, ectoin and derivatives thereof, chitosan and derivatives thereof, collagen, plankton, an extract of *Imperata cylindra* sold under the name Moist 24 by the company Sederma, acrylic acid homopolymers, for instance Lipidure-HM® from NOF Corporation, beta-glucan and in particular sodium carboxymethyl beta-glucan from Mibelle-AG-Biochemistry; a mixture of passionflower oil, apricot oil, corn oil and rice bran oil sold by Nestle under the name NutraLipids®; a C-glycoside derivative such as those described in patent application WO 02/051 828 and in particular C-β-D-xylopyranoside-2-hydroxypropane in the form of a solution containing 30% by weight of active material in a water/propylene glycol mixture (60/40% by weight) such as the product manufactured by Chimex under the trade name Mexoryl SBB®; an oil of musk rose sold by Nestle; spheres of collagen and of chondroitin sulfate of marine origin (Atelocollagen) sold by the company Engelhard Lyon under the name Marine Filling Spheres; hyaluronic acid spheres such as those sold by the company Engelhard Lyon; arginine, argan oil, and mixtures thereof.

Preferably, use will be made of a moisturizer chosen from glycerol, urea and derivatives thereof, especially Hydrovance® sold by National Starch, a C-glycoside derivative such as those described in patent application WO 02/051 828 and in particular C-β-D-xylopyranoside-2-hydroxypropane in the form of a solution containing 30% by weight of active material in a water/propylene glycol mixture (60/40% by weight) such as the product manufactured by Chimex under the trade name Mexoryl SBB®; argan oil, and mixtures thereof.

More preferably, glycerol will be used.

For application in particular for caring for or making up greasy skin, the second composition according to the invention may comprise at least one active agent chosen from: desquamating agents, anti-seborrhoeic agents; antimicrobial agents; calmatives; and mixtures thereof.

For application in particular for caring for or making up mature skin, the second composition according to the invention may comprise at least one active agent chosen from: desquamating or moisturizing agents; depigmenting or anti-depigmenting agents; anti-glycation agents; anti-NO agents; agents for stimulating the synthesis of dermal or epidermal macromolecules and/or for preventing their degradation; agents for stimulating fibroblast or keratinocyte proliferation and/or keratinocyte differentiation; muscle relaxants or dermo-decontracting agents; free-radical scavengers or anti-pollution agents; tensioning agents; agents acting on the capillary circulation; and mixtures thereof.

The compositions of this type may be in the form of a facial and/or body care or makeup product, and may be conditioned, for example, in the form of cream in a jar or of fluid in a tube or a pump-action bottle.

According to one particular embodiment, a product derived from placing in contact a first and second composition in accordance with the invention may comprise from 5% to 70% by weight and preferably from 10% to 60% by weight of first composition, and from 30% to 95% by weight and preferably from 40% to 90% by weight of second composition.

According to one particular embodiment, such a product may comprise the first and second compositions in a weight ratio ranging from 0.05 to 2 and preferably from 0.1 to 1.

The contact between the first and second compositions may take place in various ways, especially as proposed below:

- the first composition and the second composition may be mixed with the fingers or with an applicator and then applied to the skin;
- the first composition may be applied consecutively to the application of the second composition onto a keratin material, in particular the skin, or vice versa, the placing in contact between the first and second compositions then taking place directly on the surface to be treated; or
- an applicator may be precoated with the second composition, the said applicator then being intended to be placed in contact with the first composition, or vice versa, and then to be placed in contact with a keratin material, in particular the skin.

The applicator may especially be in the form of a sponge, a foam, a fabric, a roll, a fine brush or a coarse brush.

OTHER COMPONENTS THAT MAY BE CONTAINED IN THE COMPOSITIONS UNDER CONSIDERATION ACCORDING TO THE INVENTION

Either of the first and second compositions of the invention may also comprise any additive usually used in the field under consideration, chosen, for example, from surfactants and co-surfactants, waxes, pasty compounds, gums, plasticizers, gelling agents, thickeners, antioxidants, dyes, emollients, moisturizers, trace elements, softeners, sequestrants, vitamins, preserving agents, fragrances, neutralizers, antiseptics and anti-ageing active agents, and mixtures thereof.

It is a matter of routine operations for a person skilled in the art to adjust the nature and amount of the additives present in the compositions in accordance with the invention such that the desired cosmetic properties thereof are not thereby affected.

According to one embodiment, a product of the invention resulting from the mixing of the first and second compositions may advantageously be in the form of a liquid foundation, in particular an emulsion or a dispersion.

Such compositions are especially prepared according to the general knowledge of a person skilled in the art.

Throughout the description, including the claims, the term "comprising a" should be understood as being synonymous with "comprising at least one", unless otherwise mentioned.

The terms "between... and..." and "ranging from... to..." should be understood as being inclusive of the limits, unless otherwise specified.

The invention is illustrated in greater detail by the example described below. Unless otherwise mentioned, the amounts indicated are expressed as mass percentages.

Examples

Example 1: Foundation

Phase	Raw materials	Weight%
Phase I	PEG-8	19.00
	Propylene glycol	16.00
	Sorbitol	1.70
	Isononyl isononanoate	25.00
Phase II	Sodium carboxymethylstarch (1)	3.00
	Ammonium acryloyldimethyltaurate/steareth-8 methacrylate copolymer (2)	1.00
	Ceteareth-25	0.80
	Sericite	8.00
	Acrylate copolymer (3)	3.00
	Citric acid	1.60
	Sodium carbonate	0.90
	Iron oxide	6.00
	Titanium oxide	14.00

(1) Primogel, sold by the company DMV International

(2) Aristoflex SNC sold by the company Clariant

(3) Expancel 551 DE 40 sold by the company Expancel

The various ingredients of phases I and II are mixed separately. The two phases are then placed in an extruder at room temperature and blended.

The mixture leaving the extruder is an anhydrous composition in the form of a soft paste.

A nob of product is then mixed in the palm of the hand with water, in a ratio of 1/3 water and 2/3 paste, and then applied to the face.

The user thus obtains a comfortable and moisturizing deposit on the skin, which lasts throughout the day.

Example 2: Foundation

Phase	Raw materials	Weight%
Phase I	PEG-8	13.00
	Propylene glycol	13.00
	Glycerol	10.00
	Acrylamide/sodium acryloyldimethyltaurate (and) isohexadecane (and) polysorbate 80 copolymer (4)	3.00
	Sorbitan sesquioleate	3.00
	Dimethicone	12.00
	Isononyl isononanoate	12.00
Phase II	Sericite	1.50
	Kaolin	10.00
	Silica silylate (5)	2.50
	Iron oxide	6.00
	Titanium oxide	14.00

(4) Simulgel 600 from SEPPIC

(5) VM-2270 Aerogel Fine Particles from Dow Corning

Phases I and II, mixed separately beforehand, are then mixed together in a kneader for a few minutes. The mixture obtained is a slightly pulverulent soft paste.

It can be applied in this form to the face.

A nob of product may also be mixed in the palm of the hand with water, in a ratio of 1/3 water and 2/3 paste, and then applied to the face.

Irrespective of the mode of use under consideration, the user obtains a comfortable and moisturizing deposit on the skin, which lasts throughout the day.

Example 3:

The amounts of the various ingredients are expressed as weight percentages.

Phase	Raw materials	Ex. 3	Comparative Ex. 1:	Comparative Ex. 2:
Phase I	PEG-8	13.00	13.00	13.00
	Propylene glycol	13.00	13.00	13.00
	GLYCEROL	10.00	10.00	10.00
	Acrylamide/sodium acryloyldimethyltaurate (and) isohexadecane (and) polysorbate 80 copolymer (4)	3.00	3.00	**0.00**
	Sorbitan sesquioleate	3.00	3.00	3.00
	Dimethicone	12.00	12.00	12.00
	Isononyl isononanoate	12.00	12.00	15.00
Phase II	Sericite	6.50	6.50	6.50
	Kaolin	10.00	12.50	10.00
	Silica silylate (5)	2.50	**0.00**	2.50
	Iron oxide	4.50	4.50	4.50
	Titanium oxide	10.50	10.50	10.50

(4) Simulgel 600 from SEPPIC

(5) VM-2270 Aerogel Fine Particles from Dow Corning

Phases I and II, mixed separately beforehand, are then mixed together in a kneader for a few minutes. The product obtained is a slightly pulverulent soft paste.

The mixture according to Example 3 has a hardness, measured with a P0.5R spindle, of 500 g. It can be applied in this form to the face. A nob of product may also be mixed easily in the palm of the hand with water, in a ratio of 1/3 water and 2/3 paste, and then applied to the face as a liquid foundation. The product may also be placed in a jar and taken up on a foam, a sponge or a brush soaked in water, and then applied to the face. Irrespective of the mode of use under consideration, the user obtains a comfortable and moisturizing deposit on the skin, which lasts throughout the day.

The mixture according to Comparative Example 1, free of aerogel hollow particles, has a hardness of 128 g. It cannot be readily mixed with water in the palm of the hand, and, consequently, results in the easy formation of a liquid foundation.

The mixture according to Comparative Example 2, free of aqueous-phase-fixing polymer, has a hardness of 36 g. It is in the form of a thick cream and cannot be readily mixed with water in the palm of the hand to give a liquid foundation.

CLAIMS

1. Solid anhydrous cosmetic composition comprising at least:

- a polymeric agent thickening of an aqueous phase chosen from polymers derived from 2-acrylamidomethylpropanesulfonic acid, polymers derived from acrylamide, polymers derived from acrylic acid, polyether derivatives, and mixtures thereof;
- a C_2-C_{32} polyol; and
- hollow particles,

the said composition comprising at least 15% by weight of pulverulent phase relative to its total weight.

2. Composition according to the preceding claim, wherein the said composition comprises at least one fatty phase that is liquid at room temperature and atmospheric pressure.

3. Composition according to any one of the preceding claims, wherein the said composition comprises from 10% to 50% by weight and preferably from 20% to 40% by weight of oil(s), relative to the total weight of the said composition.

4. Composition according to any one of the preceding claims, wherein the said composition comprises from 0,1% to 10% by weight, preferably from 0.2% to 5% by weight and better still from 0,5% to 3% by weight of aqueous-phase-thickening polymer(s), relative to the total weight of the said composition.

5. Composition according to any one of the preceding claims, wherein the said composition comprises at least 10% by weight, preferably at least 15% by weight and better still from 20% to 45% by weight of polyol(s), relative to the total weight of the said composition.

6. Composition according to any one of the preceding claims, wherein the said composition comprises from 0,5% to 10% by weight and preferably from 1% to 6% by weight of hollow particles, relative to the total weight of the said composition.

7. Composition according to any one of the preceding claims, wherein the hollow particles are chosen from hollow particles of an expanded copolymer of vinylidene chloride and acrylonitrile or of vinylidene chloride, acrylonitrile and methyl methacrylate, hydrophobic silica aerogel particles, and mixtures thereof, preferably hydrophobic silica

aerogel particles, and better still hydrophobic silica aerogel particles with a specific surface area per unit of mass (S_M) ranging from 500 to 1500 m^2/g and preferably from 600 to 1200 m^2/g, and a size expressed as the mean volume diameter (D[0.5]), ranging from 1 to 1500 μm, better still from 1 to 1000 μm, preferably from 1 to 30 μm and more preferably from 5 to 25 μm.

8. Composition according to the preceding claim, wherein the hydrophobic silica aerogel particles have a specific surface area per unit of mass (S_M) ranging from 600 to 800 m^2/g and a size expressed as the mean volume diameter (D[0.5]) ranging from 5 to 20 μm and better still from 5 to 15 μm.

9. Composition according to Claim 6 or 7, wherein the hydrophobic silica aerogel particles have a tamped density (ρ) ranging from 0.04 g/cm^3 to 0.10 g/cm^3 and preferably from 0.05 g/cm^3 to 0.08 g/cm^3.

10. Composition according to any one of Claims 6 to 8, wherein the hydrophobic silica aerogel particles have an oil-absorbing capacity, measured at the wet point, ranging from 5 to 18 ml/g, preferably from 6 to 15 ml/g and better still from 8 to 12 ml/g of particles.

11. Composition according to any one of Claims 6 to 9, wherein the hydrophobic silica aerogel particles are trimethylsiloxyl silica particles.

12. Composition according to any one of the preceding claims, wherein the pulverulent phase comprises, besides the said hollow particles, at least one particulate material chosen from:

- fillers;
- pigments;
- nacres;
- particles with a metallic tint; and
- mixtures thereof.

13. Composition according to any one of the preceding claims, wherein the said composition comprises from 15% to 70% by weight, preferably from 20% to 60% by weight and better still from 25% to 50% by weight of pulverulent phase, relative to the total weight of the said composition.

14. Composition according to any one of the preceding claims, wherein the said composition further comprises at least one surfactant with an HLB of less than 12 and preferably with an HLB of between 1 and 10.

15. Composition according to the preceding claim, wherein the said composition comprises from 0.1% to 10% by weight and preferably from 1% to 5% by weight of surfactant(s), relative to the total weight of the said composition.

16. Extemporaneous cosmetic product comprising at least:

- a first composition as defined according to any one of Claims 1 to 15; and
- a second composition comprising at least one aqueous phase.

17. Cosmetic process comprising at least the steps consisting in:

a) providing at least a first composition as defined according to any one of Claims 1 to 15;

b) mixing at least part of the said first composition with at least part of a second composition comprising at least one aqueous phase; and

c) applying at least part of the mixture obtained in b) to the surface of a keratin material.