Title: GEL-GEL COMPRISING AT LEAST TWO FILLERS WITH A SOFT-FOCUS EFFECT

Abstract: The present invention is directed towards a cosmetic composition for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising: - at least one aqueous phase gelled with at least one hydrophilic gelling agent, said hydrophilic gelling agent being a homopolymer of a monomer containing a sulfonic group; and - at least one oily phase gelled with at least one lipophilic gelling agent; said phases forming therein a macroscopically homogeneous mixture; said composition also comprising at least two soft-focus fillers, these two soft-focus fillers being a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silic-one resin. The present invention also relates to a process for preparing a composition according to the invention and also to processes which use a composition according to the invention.
“Gel-gel comprising at least two fillers with a soft-focus effect”

The present invention is directed towards proposing for the field of caring for and/or making up keratin materials, especially the skin and/or the lips, and in particular the skin, a novel galenical form that is most particularly advantageous with regard to its technical performance and the sensations it affords the user during its application thereto, in particular to the skin.

The term “keratin materials” especially means the skin, the lips and/or the eyelashes, in particular the skin and/or the lips, and preferably the skin.

Cosmetic compositions are commonly used to hide and/or unify imperfections of the skin relief such as pores, wrinkles and/or scars. In this regard, many solid or fluid, anhydrous or non-anhydrous formulations have been developed to date.

When the purpose of these compositions is more particularly to reduce the visibility of the skin relief, the formulator uses diffusing fillers therein, otherwise known as soft-focus fillers. However, the corresponding compositions that are currently available do not prove to be entirely satisfactory, especially in terms of soft focus performance.

In order to obtain a satisfactory degree of soft focus, it is often necessary to introduce a large amount of soft-focus fillers into the composition. However, this content of soft-focus fillers may lead to destabilization of said composition and lead to cosmetic properties that are not in line with users’ expectations, especially the formation of fluffing during the application of the product and/or after drying and/or penetration of the product into the skin.

This defect is prohibitive to the user, since the application is neither uniform nor pleasant given this fluffing effect on application or during removal of the product.

In addition, it gives a “dirty” impression on the skin.

There is thus still a need for mattifying and/or smoothing compositions that can mask skin imperfections, which have good cosmetic properties, in particular which are soft, fresh and light on application and which do not lead to the formation of fluffing.

It is also desired for these mattifying cosmetic compositions to have good stability over time and not to give any sensation of discomfort, dryness or coarseness either during application or after application.

The present invention is specifically directed towards meeting this need.
Thus, according to one of its aspects, the present invention relates to a cosmetic composition for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising:

- at least one aqueous phase gelled with at least one hydrophilic gelling agent, said hydrophilic gelling agent being a homopolymer of a monomer bearing a sulfonic group, preferably a crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer; and
- at least one oily phase gelled with at least one lipophilic gelling agent; said phases forming therein a macroscopically homogeneous mixture;

said composition also comprising at least two soft-focus fillers, these two soft-focus fillers being a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.

In the context of the present invention, the term “soft-focus effect” denotes a blurred effect which hides the skin’s microreliefs. This effect makes it possible especially, via an optical effect, to attenuate skin defects such as marks, wrinkles or fine lines.

These soft-focus fillers may also be referred to as “fillers with a soft-focus effect” or “soft-focus effect fillers”.

Contrary to all expectation, the inventors have found that the formulation of fillers with a soft-focus effect in a gel-gel architecture as defined above makes it possible to improve the performances and to boost this soft-focus effect. Furthermore, the sensation of discomfort that may be generated by the presence of this type of filler is no longer experienced on application.

As emerges from the examples given below, the compositions according to the invention have improved stability and, furthermore, they make it possible to obtain products that are applied uniformly and without a “fluffing” effect.

“Gel-gel” compositions have already been proposed in the cosmetics field. Formulations of this type combine a gelled aqueous phase with a gelled oily phase. Thus, gel/gel formulations are described in Almeida et al., Pharmaceutical Development and Technology, 2008, 13:487, tables 1 and 2, page 488; WO 99/65455; PI 0405758-9; WO 99/62497; JP 2005-112834 and WO 2008/081175. However, to the inventors' knowledge, this type of composition does not at the present time make it possible to dissimulate and
smooth out relief imperfections without thereby impairing the other expected cosmetic performance qualities.

As stated above, the inventors have found that the choice of a particular hydrophilic gelling agent for texturing the aqueous phase of a composition of gel/gel type and the use of at least two particular soft-focus fillers in a composition according to the invention makes it possible to improve the effects of these fillers, as illustrated in the examples, while at the same time improving the cosmetic properties (stability, absence of fluffing).

Thus, a composition according to the invention shows very good properties for hiding the imperfections, in terms of relief and smoothness, of skin, while at the same time affording the user a sensation of freshness and lightness. Finally, the composition proves to be easy to apply to the surface of the targeted keratin material.

The composition of the invention makes it possible to obtain a pleasant homogeneous application of the product without the appearance of flakes at the various stages of use of the product, whether it be during application or while drying.

According to another of its aspects, a subject of the invention is also a process for preparing a cosmetic composition for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising at least one step of mixing:

- an aqueous phase gelled with at least one homopolymer of a monomer bearing a sulfonic group, in particular at least one crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer; and

- at least one oily phase gelled with at least one lipophilic gelling agent;

under conditions suitable for obtaining a macroscopically homogeneous mixture; said composition also comprising at least two soft-focus fillers, namely a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.

According to one embodiment variant, this process may advantageously comprise a step of mixing at least two, preferably at least three or even more gelled phases.

For obvious reasons, the number of gelled aqueous phases and of gelled oily phases to be considered for forming a composition according to the invention may range for each of the two types of phase beyond two.
Advantageously, the mixing of the phases may be performed at room temperature.

However, the process of the invention may comprise, if necessary, a step of heating the mixture.

According to a particular embodiment, the representative gelled phases of the same type of architecture are gelled with a different gelling agent.

Multi-phase formulas may thus be developed.

According to one embodiment, a cosmetic composition according to the invention may be prepared without following a particular order of introduction of the various constituents.

Thus, according to one embodiment variant, a composition according to the invention may be prepared by mixing at least a gelled aqueous phase according to the invention and at least the ingredients of the oily phase according to the invention.

According to one embodiment variant, a composition according to the invention may be prepared by mixing at least a gelled oily phase according to the invention and at least the ingredients of the aqueous phase according to the invention.

According to another embodiment variant, a composition according to the invention may be prepared according to a “one-pot” method, i.e. by mixing together all of the ingredients of the aqueous and oily phases.

According to another of its aspects, a subject of the invention is also a process, especially a cosmetic process, for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising at least one step of applying to said keratin material a composition in accordance with the invention.

According to yet another of its aspects, the present invention relates to a cosmetic process for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising at least one step of application to said keratin material of a macroscopically homogeneous composition obtained by extemporaneous mixing, before application or at the time of application to said keratin material, of at least one aqueous phase gelled with at least one homopolymer of a monomer bearing a sulfonic group, preferably with at least one crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer, and at least one oily phase gelled with at least one lipophilic gelling agent; and
said composition also comprising at least two soft-focus fillers, namely a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.

COSMETIC COMPOSITION

To begin with, it is important to note that a composition according to the invention is different from an emulsion.

An emulsion generally consists of an oily liquid phase and an aqueous liquid phase. It is a dispersion of droplets of one of the two liquid phases in the other. The size of the droplets forming the dispersed phase of the emulsion is typically about a micrometre (0.1 to 100 μm). Furthermore, an emulsion requires the presence of a surfactant or of an emulsifier to ensure its stability over time.

In contrast, a composition according to the invention consists of a macroscopically homogeneous mixture of two immiscible gelled phases. These two phases both have a gel-type texture. This texture is especially reflected visually by a consistent and/or creamy appearance.

The term “macroscopically homogeneous mixture” means a mixture in which each of the gelled phases cannot be individualized by the naked eye. More precisely, in a composition according to the invention, the gelled aqueous phase and the gelled oily phase interpenetrate and thus form a stable, consistent product. This consistency is achieved by mixing interpenetrated macrodomains. These interpenetrated macrodomains are not measurable objects. Thus, by microscope, the composition according to the invention is very different from an emulsion. A composition according to the invention cannot be characterized either as having a “sense”, i.e. an O/W or W/O sense, this means that a continuous phase and a dispersed phase cannot be defined.

Thus, a composition according to the invention has a consistency of gel type. The stability of the composition is long-lasting without surfactant. Consequently, a cosmetic composition according to the invention, does not require any surfactant or silicone emulsifier to ensure its stability over time.
A composition according to the invention is distinguishable from an emulsion by means of at least one of the following tests: test using a dyestuff, drop test and dilution test.

Test using a dyestuff

It is known practice from the prior art to observe the intrinsic nature of a mixture of aqueous and oily gels in a gel-type composition, for example, by introducing a dyestuff either into the aqueous gelled phase or into the lipophilic gelled phase, before the formation of the gel/gel-type composition. During visual inspection, in a gel/gel-type composition, the dyestuff appears uniformly dispersed, even if the dye is present solely in the gelled aqueous phase or in the gelled oily phase. Specifically, if two different dyes of different colours are introduced, respectively, into the oily phase and into the aqueous phase, before formation of the gel/gel-type composition, the two colours may be observed as being uniformly dispersed throughout the gel/gel-type composition. This is different from an emulsion in which, if a dye, which is soluble in water or soluble in oil, is introduced, respectively, into the aqueous and oily phases, before forming the emulsion, the colour of the dye present will only be observed in the outer phase (Remington: The Science and Practice of Pharmacy, 19th Edition (1995), Chapter 21, page 282).

Drop test

It is also known practice to distinguish a gel/gel-type composition from an emulsion by performing a “drop test”. This test consists in demonstrating the bi-continuous nature of a gel/gel-type composition. Specifically, as mentioned previously, the consistency of a composition is obtained by means of the interpenetration of the aqueous and oily gelled domains. Consequently, the bi-continuous nature of a gel/gel-type composition may be demonstrated by means of a simple test with, respectively, hydrophilic and hydrophobic solvents. This test consists in depositing, firstly, one drop of a hydrophilic solvent on a first sample of the test composition, and, secondly, one drop of a hydrophobic solvent on a second sample of the same test composition, and in analysing the behaviour of the two drops of solvents. In the case of an O/W emulsion, the drop of hydrophilic solvent diffuses into the sample and the drop of hydrophobic solvent remains at the surface of the sample. In the case of a W/O emulsion, the drop of hydrophilic solvent remains at the surface of the sample and the drop of hydrophobic solvent diffuses throughout the sample.
Finally, in the case of a gel/gel-type composition (bi-continuous system), the hydrophilic and hydrophobic drops diffuse throughout the sample.

**Dilution test**

In the case of the present invention, the test that will be preferred for distinguishing a gel/gel-type composition from an emulsion is a dilution test. Specifically, in a gel/gel-type composition, the aqueous and oily gelled domains interpenetrate and form a consistent and stable composition, in which the behaviour in water and in oil is different from the behaviour of an emulsion. Consequently, the behaviour during dilution of a gel/gel-type composition (bi-continuous system) may be compared to that of an emulsion, obviously the behaviour during dilution of a gel/gel-type composition and the one of a emulsion will be different.

More specifically, the dilution test consists in placing 40 g of product and 160 g of dilution solvent (water or oil) in a beaker. The dilution is performed with controlled stirring to avoid any emulsification. In particular, this is performed using a planetary mixer: Speed Mixer TM DAC400FVZ. The speed of the mixer is set at 1500 rpm for 4 minutes. Finally, observation of the resulting sample is performed using an optical microscope at a magnification of \( \times 100 \) (\( \times 10 \times 10 \)). It may be noted that oils such as Parleam® and Xiameter PMX-200 Silicone Fluid 5CS® sold by Dow Corning are suitable as dilution solvent, in the same respect as one of the oils contained in the composition.

In the case of a gel/gel-type composition (bi-continuous system), when it is diluted in oil or in water, a heterogeneous appearance is always observed. When a gel/gel-type composition (bi-continuous system) is diluted in water, pieces of oily gel in suspension are observed, and when a gel-type composition (bi-continuous system) is diluted in oil, pieces of aqueous gel in suspension are observed.

In contrast, during dilution, emulsions have a different behaviour. When an O/W emulsion is diluted in an aqueous solvent, it gradually reduces without having a heterogeneous and lumpy appearance. This same O/W emulsion, on dilution with oil, has a heterogeneous appearance (pieces of O/W emulsion suspended in the oil). When a W/O emulsion is diluted with an aqueous solvent, it has a heterogeneous appearance (pieces of W/O emulsion suspended in the water). This same W/O emulsion, when diluted in oil, gradually reduces without having a heterogeneous and lumpy appearance.
According to the present invention, the aqueous gelled phase and the oily 
gelled phase forming a composition according to the invention are present therein in an 
aqueous phase/oily phase weight ratio ranging from 95/5 to 5/95. More preferentially, the 
aqueous phase and the oily phase are present in an aqueous phase/oily phase weight ratio 
ranging from 30/70 to 80/20.

The ratio between the two gelled phases is adjusted according to the desired 
property.

Thus, in the case of a makeup composition, in particular for the face, it may be 
advantageous to favour an aqueous gelled phase/oily gelled phase weight ratio of greater 
than 1, especially ranging from 60/40 to 90/10, preferably ranging from 60/40 to 80/20, 
preferentially from 60/40 to 70/30, and even more preferentially to favour an aqueous 
gelled phase/oily gelled phase weight ratio of 60/40 or 70/30.

These preferred ratios are particularly advantageous for obtaining fresh and 
light compositions.

Advantageously, a composition according to the invention is thus in the form 
of a creamy gel with a minimum stress below which it does not flow unless it has been 
subjected to an external mechanical stress.

As emerges from the text hereinbelow, a composition according to the 
invention may have a minimum threshold stress of 1.5 Pa and in particular greater than 
10 Pa.

The composition according to the invention may have a maximum threshold 
stress of 10 000 Pa preferably of 5 000 Pa.

It also advantageously has a stiffness modulus G* at least equal to 400 Pa and 
preferably greater than 1000 Pa. The composition according to the invention may have a 
stiffness modulus G* preferably lower than 50 000 Pa, more preferably lower than 5 000 Pa.

The ratio of the hydrophilic phase viscosity / lipophilic phase viscosity 
(measured at 25°C and 100 s⁻¹) preferably ranges from 0.2 and 3.

According to an advantageous embodiment variant, the gelled phases under 
consideration to form a composition according to the invention have, respectively, a 
threshold stress of greater than 1.5 Pa and preferably greater than 10 Pa.
The gelled phases under consideration to form a composition according to the invention may have a threshold stress lower than 10 000 Pa preferably lower than 5 000 Pa.

Characterization of the threshold stresses is performed by oscillating rheology measurements. Methodology is proposed in the illustrative chapter of the present text.

In general, the corresponding measurements are taken at 25°C using a Haake RS600 imposed-stress rheometer equipped with a plate-plate measuring body (60 mm diameter) fitted with an anti-evaporation device (bell jar). For each measurement, the sample is placed delicately in position and the measurements start 5 minutes after placing the sample in the jaws (2 mm). The test composition is then subjected to a stress ramp from $10^2$ to $10^3$ Pa at a set frequency of 1 Hz.

A composition according to the invention may also have a certain elasticity. This elasticity may be characterized by a stiffness modulus $G^*$ which, under this minimum stress threshold, may be at least equal to 400 Pa and preferably greater than 1000 Pa. The value $G^*$ of a composition may be obtained by subjecting the composition under consideration to a stress ramp from $10^2$ to $10^3$ Pa at a set frequency of 1 Hz.

**HYDROPHILIC GELLING AGENT**

For the purposes of the present invention, the term "hydrophilic gelling agent" means a compound that is capable of gelling the aqueous phase of the compositions according to the invention.

The gelling agent is hydrophilic and is thus present in the aqueous phase of the composition.

The composition according to the invention comprises at least one homopolymer of a monomer bearing a sulfonic group.

The polymers comprising at least one monomer bearing a sulfonic group, which are used in the composition of the invention, are advantageously water-soluble or water-dispersible or swellable in water. The polymers used in accordance with the invention are homopolymers that may be obtained from at least one ethylenically unsaturated monomer bearing a sulfonic group, which may be in free form, or partially or totally neutralized form.

Preferentially, the polymers in accordance with the invention may be partially or
totally neutralized with a mineral base (sodium hydroxide, potassium hydroxide or aqueous ammonia) or an organic base such as monoethanolamine, diethanolamine or triethanolamine, an aminomethylpropanediol, N-methylglucamine, basic amino acids such as arginine and lysine, and mixtures of these compounds.

In the present invention, the term “neutralized” refers to polymers that are totally or virtually totally neutralized, i.e. at least 90% neutralized.

The polymers used in the composition of the invention generally have a number-average molecular weight ranging from 1000 to 20 000 000 g/mol, preferably ranging from 20 000 to 5 000 000 and even more preferentially from 100 000 to 1 500 000 g/mol.

These polymers according to the invention may or may not be crosslinked, and are preferably crosslinked. The homopolymer of monomers bearing a sulfonic group may be crosslinked with one or more crosslinking agents.

The monomers bearing a sulfonic group of the homopolymer used in the composition of the invention are chosen especially from vinylsulfonic acid, styrenesulfonic acid, (meth)acrylamido(C$_1$-C$_{22}$)alkylsulfonic acids, N-(C$_1$-C$_{22}$)alkyl(meth)acrylamido(C$_1$-C$_{22}$)alkylsulfonic acids, for instance undecylacrylamidomethanesulfonic acid, and also the partially or totally neutralized forms thereof, and mixtures thereof.

According to a preferred embodiment of the invention, the monomers bearing a sulfonic group are chosen from (meth)acrylamido(C$_1$-C$_{22}$)alkylsulfonic acids, for instance acrylamidomethanesulfonic acid, acrylamidoethanesulfonic acid, acrylamidopropanesulfonic acid, 2-acrylamido-2-methylpropanesulfonic acid, 2-methacrylamido-2-methylpropanesulfonic acid, 2-acrylamido-n-butanesulfonic acid, 2-acrylamido-2,4,4-trimethylpentanesulfonic acid, 2-methacrylamidododecylsulfonic acid, 2-acrylamido-2,6-dimethyl-3-heptanesulfonic acid, and also the partially or totally neutralized forms thereof, and mixtures thereof.

More particularly, use is made of 2-acrylamido-2-methylpropanesulfonic acid (AMPS) and also the partially or totally neutralized forms thereof.

According to one embodiment, a homopolymer of a monomer bearing a sulfonic group according to the invention is a crosslinked or non-crosslinked, preferably crosslinked, ammonium acrylamido-2-methylpropanesulfonate homopolymer.

According to a preferred embodiment, a homopolymer of a monomer bearing a sulfonic group according to the invention is a crosslinked ammonium acrylamido-2-
methylpropanesulfonate homopolymer, preferably of INCI name: Ammonium Polyacryloyldimethyltauramide as described in patent EP 0815 928 B1 and such as the product sold under the trade name Hostacerin AMPS® by the company Clariant.

According to one variant, an aqueous phase according to the invention may comprise from 0.1% to 10%, preferably from 0.2% to 8%, more preferentially from 0.5% to 6% and even from 0.5% to 5% by weight of homopolymer solids of a monomer bearing a sulfonic group relative to its total weight.

**ADDITIONAL HYDROPHILIC GELLING AGENT**

In addition, the present invention may also comprise at least one additional hydrophilic agent other than the homopolymer of a monomer bearing a sulfonic group.

Needless to say, said additional hydrophilic agents are used in suitable contents and under suitable conditions so as not to be harmful to the compositions.

The additional hydrophilic gelling agent may be water-soluble or water-dispersible.

The additional hydrophilic gelling agent may be chosen from polymeric gelling agents that are natural or of natural origin, synthetic polymeric gelling agents, mixed silicates and fumed silicas, and mixtures thereof.

**I. Polymeric gelling agents that are natural or of natural origin**

The polymeric hydrophilic gelling agents that are suitable for use in the invention may be natural or of natural origin.

For the purposes of the invention, the term “of natural origin” is intended to denote polymeric gelling agents obtained by modification of natural polymeric gelling agents.

These gelling agents may be particulate or non-particulate.

For the purposes of the invention, the term “particulate” means that the polymer is in the form of particles, preferably spherical particles.

More specifically, these gelling agents fall within the category of polysaccharides.

In general, polysaccharides may be divided into several categories.
Thus, polysaccharides that are suitable for use in the invention may be homopolysaccharides such as fructans, glucans, galactans and mannans or heteropolysaccharides such as hemicellulose.

Similarly, they may be linear polysaccharides such as pullulan or branched polysaccharides such as gum arabic and amylopectin, or mixed polysaccharides such as starch.

More particularly, the polysaccharides that are suitable for use in the invention may be distinguished according to whether or not they are starchy.

As starchy starches, mention is made particularly of native starches, modified starches and particulate starches.

As non-starchy starches, mention is made particularly of polysaccharides produced by microorganisms such as xanthan, pullulan, dextran and dextran sulfate, succinoglycan, scleroglucan and gellan gum; polysaccharides isolated from algae such as galactans, furcellaran, alginate-based compounds, and higher plant polysaccharides, such as homogeneous polysaccharides, in particular celluloses and derivatives thereof or fructosans, heterogeneous polysaccharides such as gum arabics, galactomannans, guar gums, glucomannans and pectins, and derivatives thereof; and mixtures thereof.

II. Synthetic polymeric gelling agents

For the purposes of the invention, the term “synthetic” means that the polymer is neither naturally existing nor a derivative of a polymer of natural origin.

The synthetic polymeric hydrophilic gelling agent under consideration according to the invention may or may not be particulate.

As emerges from the text hereinbelow, the polymeric hydrophilic gelling agent is advantageously chosen from crosslinked acrylic homopolymers or copolymers; associative polymers, in particular associative polymers of polyurethane type; polyacrylamides and crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid copolymers; modified or unmodified carboxyvinyl polymers, and mixtures thereof, especially as defined below.

II.A. Particulate synthetic polymeric gelling agents

They are preferably chosen from crosslinked polymers.
They may especially be crosslinked acrylic homopolymers or copolymers, which are preferably partially neutralized or neutralized, and which are in particulate form.

II.B. Non-particulate synthetic polymeric gelling agents

This family of gelling agents may be detailed under the following subfamilies:
1. Associative polymers,
2. Polyacrylamides and crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid copolymers, and
3. Modified or unmodified carboxyvinyl polymers.

III. Other hydrophilic gelling agents

These gelling agents are more particularly chosen from mixed silicates and fumed silicas.

III.A. Mixed silicate

For the purposes of the present invention, the term “mixed silicate” means all silicates of natural or synthetic origin containing several (two or more) types of cations chosen from alkali metals (for example Na, Li, K) or alkaline-earth metals (for example Be, Mg, Ca), transition metals and aluminium.

III.B. Hydrophilic fumed silica

The fumed silicas according to the present invention are hydrophilic.

The hydrophilic fumed silicas are obtained by pyrolysis of silicon tetrachloride (SiCl₄) in a continuous flame at 1000°C in the presence of hydrogen and oxygen. According to one variant, an aqueous phase according to the invention may comprise from 0.1% to 10%, preferably from 0.2% to 8%, more preferentially from 0.5% to 6% and even from 0.5% to 5% by weight of solids of additional hydrophilic gelling agent, relative to the total weight thereof.

LIPOPHILIC GELLING AGENT
For the purposes of the present invention, the term “lipophilic gelling agent” means a compound that is capable of gelling the oily phase of the compositions according to the invention.

The gelling agent is lipophilic and is thus present in the oily phase of the composition.

The gelling agent is liposoluble or lipodispersible.

As emerges from the text hereinbelow, the lipophilic gelling agent is advantageously chosen from particulate gelling agents, organopolysiloxane elastomers, semi-crystalline polymers, dextrin esters and polymers containing hydrogen bonding (hydrogen bonding polymers) and mixtures thereof.

I. Particulate gelling agents

The particulate gelling agent used in the composition according to the invention is in the form of particles, preferably spherical particles.

As representative lipophilic particulate gelling agents that are suitable for use in the invention, mention may be made most particularly of polar and apolar waxes, modified clays, and silicas such as fumed silicas and hydrophobic silica aerogels.

Waxes

The term “wax” under consideration in the context of the present invention generally means a lipophilic compound that is solid at room temperature (25°C), with a solid/liquid reversible change of state, having a melting point of greater than or equal to 30°C, which may be up to 200°C and in particular up to 120°C.

For the purposes of the invention, the melting point corresponds to the temperature of the most endothermic peak observed in thermal analysis (DSC) as described in the standard ISO 11357-3; 1999. The melting point of the wax may be measured using a differential scanning calorimeter (DSC), for example the calorimeter sold under the name MDSC 2920 by the company TA Instruments.

The measuring protocol is as follows:

A 5 mg sample of wax placed in a crucible is subjected to a first temperature increase from -20°C to 100°C, at a heating rate of 10°C/minute, and then is cooled from 100°C to -20°C at a cooling rate of 10°C/minute and is finally subjected to a second
temperature rise from -20°C to 100°C at a heating rate of 5°C/minute. During the second
temperature rise, the variation in the difference in power absorbed by the empty crucible
and by the crucible containing the sample of wax is measured as a function of the
temperature. The melting point of the compound is the temperature value corresponding to
the top of the peak of the curve representing the variation in the difference in power
absorbed as a function of the temperature.

The waxes that may be used in the compositions according to the invention are
chosen from waxes that are solid at room temperature of animal, plant, mineral or synthetic
origin, and mixtures thereof.

The waxes, for the purposes of the invention, may be those used generally in
the cosmetic or dermatological fields. They may in particular be polar or apolar, and
hydrocarbon-based, silicone and/or fluoro waxes, optionally comprising ester or hydroxyl
functions. They may also be of natural or synthetic origin.

a) Apolar waxes

For the purposes of the present invention, the term “apolar wax” means a wax
whose solubility parameter at 25°C as defined below, \( \delta_a \), is equal to 0 (J/cm\(^3\))\(^{1/2}\).

The definition and calculation of the solubility parameters in the Hansen three-
dimensional solubility space are described in the article by C.M. Hansen: The three-

According to this Hansen space:

- \( \delta_D \) characterizes the London dispersion forces derived from the formation of
dipoles induced during molecular impacts;
- \( \delta_p \) characterizes the Debye interaction forces between permanent dipoles and
also the Keesom interaction forces between induced dipoles and permanent dipoles;
- \( \delta_h \) characterizes the specific interaction forces (such as hydrogen bonding,
acid/base, donor/acceptor, etc.); and
- \( \delta_a \) is determined by the equation: \( \delta_a = (\delta_p^2 + \delta_h^2)^{1/2} \).

The parameters \( \delta_p, \delta_h, \delta_D \) and \( \delta_a \) are expressed in (J/cm\(^3\))\(^{1/2}\).

The apolar waxes are in particular hydrocarbon-based waxes constituted solely
of carbon and hydrogen atoms, and free of heteroatoms such as N, O, Si and P.
The apolar waxes are chosen from microcrystalline waxes, paraffin waxes, ozokerite and polyethylene waxes, and mixtures thereof.

An ozokerite that may be mentioned is Ozokerite Wax SP 1020 P.

As microcrystalline waxes that may be used, mention may be made of Multiwax W 445® sold by the company Sonneborn, and Microwax HW® and Base Wax 30540® sold by the company Paramelt, and Cerewax® No. 3 sold by the company Baerlocher.

As microwaxes that may be used in the compositions according to the invention as apolar wax, mention may be made in particular of polyethylene microwaxes such as those sold under the names Micropoly 200®, 220®, 220L® and 250S® by the company Micro Powders.

Polyethylene waxes that may be mentioned include Performalene 500-L Polyethylene and Performalene 400 Polyethylene sold by New Phase Technologies, and Asensa® SC 211 sold by the company Honeywell.

b) Polar wax

For the purposes of the present invention, the term “polar wax” means a wax whose solubility parameter at 25°C, δa, is other than 0 (J/cm³)½.

In particular, the term “polar wax” means a wax whose chemical structure is formed essentially from, or even consists of, carbon and hydrogen atoms, and comprising at least one highly electronegative heteroatom such as an oxygen, nitrogen, silicon or phosphorus atom.

The polar waxes may in particular be hydrocarbon-based, fluoro or silicone waxes.

Preferentially, the polar waxes may be hydrocarbon-based waxes.

The term “hydrocarbon-based wax” is intended to mean a wax formed essentially from, or even constituted of, carbon and hydrogen atoms, and optionally oxygen and nitrogen atoms, and that does not contain any silicon or fluorine atoms. It may also contain alcohol, ester, ether, carboxylic acid, amine and/or amide groups.

According to the invention, the term “ester wax” is intended to mean a wax comprising at least one ester function. According to the invention, the term “alcohol wax”
is intended to mean a wax comprising at least one alcohol function, i.e. comprising at least
one free hydroxyl (OH) group.

The following may especially be used as ester wax:

- ester waxes such as those chosen from:

  i) waxes of formula \( R_1 \text{COOR}_2 \) in which \( R_1 \) and \( R_2 \) represent linear, branched or
cyclic aliphatic chains in which the number of atoms ranges from 10 to 50, which may
contain a heteroatom such as O, N or P and whose melting point ranges from 25 to 120°C;

  ii) bis(1,1,1-trimethylolpropane) tetrastearate, sold under the name Hest 2T-45° by the company Heterene;

  iii) diester waxes of a dicarboxylic acid of general formula \( R^3-(\text{OCO-R}^4\text{COO-R}^5) \), in which \( R^3 \) and \( R^5 \) are identical or different, preferably identical, and represent
a C\(_4\)-C\(_{30}\) alkyl group (alkyl group comprising from 4 to 30 carbon atoms) and \( R^4 \) represents
a linear or branched C\(_4\)-C\(_{30}\) aliphatic group (alkyl group comprising from 4 to 30 carbon
atoms) which may or may not comprise one or more unsaturations and which is preferably
linear and unsaturated;

  iv) mention may also be made of the waxes obtained by catalytic
hydrogenation of animal or vegetable oils having linear or branched C\(_8\)-C\(_{32}\) fatty chains,
for example such as hydrogenated jojoba oil, hydrogenated sunflower oil, hydrogenated
caster oil, hydrogenated coconut oil, and also the waxes obtained by hydrogenation of
caster oil esterified with cetyl alcohol;

  v) beeswax, synthetic beeswax, polyglycerolated beeswax, carnauba wax,
candelilla wax, oxypropylated lanolin wax, rice bran wax, ouricury wax, esparto grass
wax, cork fibre wax, sugar cane wax, Japan wax, sumac wax, montan wax, orange wax,
laurel wax, hydrogenated jojoba wax, sunflower wax, lemon wax, olive wax or berry wax.

According to another embodiment, the polar wax may be an alcohol wax.
According to the invention, the term “alcohol wax” means a wax comprising at least one
alcohol function, i.e. comprising at least one free hydroxyl (OH) group. Alcohol waxes that
may be mentioned include for example the C\(_{30}\)-50 alcohol wax Performacol\textsuperscript{®} 550 Alcohol
sold by the company New Phase Technologies, stearyl alcohol and cetyl alcohol.

It is also possible to use silicone waxes, which may advantageously be
substituted polysiloxanes, preferably of low melting point.
The term “silicone wax” is intended to mean an oil comprising at least one silicon atom, and in particular comprising Si-O groups.

Among the commercial silicone waxes of this type, mention may be made in particular of those sold under the names Abilwax 9800, 9801 or 9810 (Goldschmidt), KF910 and KF7002 (Shin-Etsu), or 176-1118-3 and 176-11481 (General Electric).

The silicone waxes that may be used may also be alkyl or alkoxy dimethicones, and also (C_{20-60})alkyl dimethicones, in particular (C_{30-45})alkyl dimethicones, such as the silicone wax sold under the name SF-1642 by the company GE-Bayer Silicones or C_{30-45} alkyl dimethyldimethyl polypropylsilsesquioxane under the name SW-8005® C30 Resin Wax sold by the company Dow Corning.

In the context of the present invention, particularly advantageous waxes that may be mentioned include polyethylene waxes, jojoba wax, candelilla wax and silicone waxes, in particular candelilla wax.

They may be present in the oily phase in a proportion of from 0.5% to 30% by weight relative to the weight of the oily phase, for example between 5% and 20% of the oily phase and more particularly from 2% to 15% by weight relative to the weight of the oily phase.

**Modified clays**

The composition according to the invention may comprise at least one lipophilic clay.

The clays may be natural or synthetic, and they are made lipophilic by treatment with an alkylammonium salt such as a C_{10} to C_{22} ammonium chloride, for example distearyldimethylammonium chloride.

They may be chosen from bentonites, in particular hectorites and montmorillonites, beidellites, saponites, nontronites, sepiolites, biotites, attapulgites, vermiculites and zeolites.

They are preferably chosen from hectorites.

Hectorites modified with a C_{10} to C_{22} ammonium chloride, such as hectorite modified with distearyldimethylammonium chloride, for instance the product sold under the name Bentone 38V® by the company Elementis or bentone gel in isododecane sold under the name Bentone Gel ISD V® (87% isododecane/10% disteardimonium...
hectorite/3% propylene carbonate) by the company Elementis, are preferably used as lipophilic clays.

Lipophilic clay may especially be present in a content ranging from 0.1% to 15% by weight, in particular from 0.5% to 10% and more particularly from 1% to 10% by weight relative to the total weight of the oily phase.

**Silicas**

The oily phase of a composition according to the invention may also comprise, as gelling agent, a fumed silica or silica aerogel particles.

a) **Fumed silica**

Fumed silica which has undergone a hydrophobic surface treatment is most particularly suitable for use in the invention. Specifically, it is possible to chemically modify the surface of the silica, by chemical reaction generating a reduced number of silanol groups present at the surface of the silica. It is possible in particular to replace silanol groups with hydrophobic groups: a hydrophobic silica is then obtained.

The hydrophobic groups may be:

- trimethylsiloxy groups, which are obtained in particular by treating fumed silica in the presence of hexamethyldisilazane. Silicas thus treated are known as Silica Silylate according to the CTFA (8th edition, 2000). They are sold, for example, under the references Aerosil R812® by the company Degussa and Cab-O-Sil TS-530® by the company Cabot.

- dimethylsilyloxy or polydimethylsiloxane groups, which are obtained in particular by treating fumed silica in the presence of polydimethylsiloxane or dimethyl dichlorosilane. Silicas thus treated are known as Silica dimethyl silylate according to the CTFA (8th edition, 2000). They are sold, for example, under the references Aerosil R972® and Aerosil R974® by the company Degussa, and Cab-O-Sil TS-610® and Cab-O-Sil TS-720® by the company Cabot.

The fumed silicas may be present in a composition according to the present invention in a content of between 0.1% and 40% by weight, more particularly between 1% and 15% by weight and even more particularly between 2% and 10% by weight relative to the total weight of the oily phase.
b) Hydrophobic silica aerogels

The oily phase of a composition according to the invention may also comprise, as gelling agent, at least silica aerogel 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 a liquid medium and then dried, usually by extraction with a supercritical fluid, the one most commonly used being supercritical CO₂. 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 operations are described in detail in Brinker C.J. and Scherer G.W., *Sol-Gel Science*, New York: Academic Press, 1990.

The hydrophobic silica aerogel particles used in the present invention have a specific surface area per unit mass (SM) ranging from 500 to 1500 m²/g, preferably from 600 to 1200 m²/g and better still from 600 to 800 m²/g, and a size expressed as the volume-mean 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 used in the present invention have a size expressed as volume-mean 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 mass may be determined by the nitrogen absorption method, known as the BET (Brunauer-Emmett-Teller) method, described in *The Journal of the American Chemical Society*, vol. 60, page 309, February 1938, which corresponds to 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 sizes of the silica aerogel particles may be measured by static light scattering using a commercial particle size analyser 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

According to an advantageous embodiment, the hydrophobic silica aerogel particles used in the present invention have a specific surface area per unit of mass (SM) ranging from 600 to 800 m$^2$/g.

The silica aerogel particles used in the present invention may advantageously have a tapped density $\rho$ ranging from 0.02 g/cm$^3$ to 0.10 g/cm$^3$, preferably from 0.03 g/cm$^3$ to 0.08 g/cm$^3$ and in particular ranging from 0.05 g/cm$^3$ to 0.08 g/cm$^3$.

In the context of the present invention, this density, known as the tapped 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 tapping actions (this operation is repeated until the difference in volume between two consecutive tests is less than 2%); the final volume $V_f$ of tapped powder is then measured directly on the measuring cylinder. The tapped density is determined by the ratio $m/V_f$, in this instance $40/V_f$ ($V_f$ being expressed in cm$^3$ and $m$ in g).

According to one preferred embodiment, the hydrophobic silica aerogel particles 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: $S_V = S_M \times \rho$; where $\rho$ is the tapped 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 absorbing capacity measured at the wet point, noted $W_p$, corresponds to the amount of oil that needs to be added to 100 g of particles 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 measurement of the wet point, described below:

An amount \( m = 2 \) g of powder is placed on a glass plate, and the oil (isrononyl isononanoate) is then added dropwise. After addition of 4 to 5 drops of oil to the powder, mixing is carried out using a spatula, and addition of oil is continued until conglomerates of oil and powder have formed. From this point, the oil is added at the rate of one drop at a time and the mixture is subsequently 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 \( V_s \) (expressed in ml) of oil used is then noted.

The oil uptake corresponds to the ratio \( V_s/m \).

The aerogels used according to the present invention are aerogels of hydrophobic silica, preferably of silylated silica (INCI name: silica silylate).

The term “hydrophobic silica” means any silica whose surface is treated with silylating agents, for example with 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 aerogel particles that have been surface-modified by silylation, reference may be made to document US 7 470 725.

Use will preferably be made of hydrophobic silica aerogel particles surface-modified with trimethylsilyl groups, preferably of the INCI name Silica silylate.

As hydrophobic silica aerogels that may be used in the invention, an example that may be mentioned is the aerogel sold under the name VM-2260 or VM-2270 (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 and Aerogel TLD 203, Enova® Aerogel MT 1100 and Enova Aerogel MT 1200.

Use will preferably be made of the aerogel sold under the name VM-2270 (INCI name: Silica silylate) by the company Dow Corning, the particles of which have an
average size ranging from 5-15 microns and a specific surface area per unit of mass ranging from 600 to 800 m$^2$/g. Preferably, the hydrophobic silica aerogel particles are present in the composition according to the invention in a solids content ranging from 0.1% to 8% by weight, preferably from 0.2% to 5% by weight and preferably from 0.2% to 1.5% by weight relative to the total weight of the oily phase.

**II. Organopolysiloxane elastomer**

According to one embodiment, a composition according to the invention comprises at least one organopolysiloxane elastomer as lipophilic gelling agent.

The organopolysiloxane elastomer that may be used as lipophilic gelling agent has the advantage of giving the composition according to the invention good application properties. It affords a very soft feel and a matt effect after application, which is advantageous especially for application to the skin. It may also allow efficient filling of the hollows present on keratin materials.

The term “organopolysiloxane elastomer” or “silicone elastomer” means a supple, deformable organopolysiloxane with viscoelastic properties and especially with the consistency of a sponge or a supple sphere. Its modulus of elasticity is such that this material withstands deformation and has a limited ability to extend and to contract. This material is capable of regaining its original shape after stretching.

It is more particularly a crosslinked organopolysiloxane elastomer.

Thus, the organopolysiloxane elastomer may be obtained by crosslinking addition reaction of diorganopolysiloxane containing at least one hydrogen bonded to silicon and of diorganopolysiloxane containing ethylenically unsaturated groups bonded to silicon, especially in the presence of a platinum catalyst; or by dehydrogenation crosslinking condensation reaction between a diorganopolysiloxane comprising hydroxyl end groups and a diorganopolysiloxane containing at least one hydrogen bonded to silicon, especially in the presence of an organotin; or by crosslinking condensation reaction of a diorganopolysiloxane comprising hydroxyl end groups and of a hydrolysable organopolysilane; or by thermal crosslinking of organopolysiloxane, especially in the presence of an organoperoxide catalyst; or by crosslinking of organopolysiloxane via high-energy radiation such as gamma rays, ultraviolet rays or an electron beam.
Preferably, the organopolysiloxane elastomer is obtained by crosslinking addition reaction (A) of diorganopolysiloxane containing at least two hydrogens each bonded to a silicon, and (B) of diorganopolysiloxane containing at least two ethylenically unsaturated groups bonded to silicon, especially in the presence (C) of a platinum catalyst, as described, for instance, in patent application EP-A-295 886.

In particular, the organopolysiloxane elastomer may be obtained by reaction of dimethylpolysiloxane comprising dimethylvinylsiloxo end groups and of methylhydrogenopolysiloxane comprising trimethylsiloxo end groups, in the presence of a platinum catalyst.

Compound (A) is the base reagent for the formation of organopolysiloxane elastomer, and the crosslinking is performed by addition reaction of compound (A) with compound (B) in the presence of the catalyst (C).

Compound (A) is in particular an organopolysiloxane containing at least two hydrogen atoms bonded to different silicon atoms in each molecule.

Compound (A) may have any molecular structure, in particular a linear-chain or branched-chain structure or a cyclic structure.

Compound (A) may have a viscosity at 25°C ranging from 1 to 50,000 centistokes, especially so as to be miscible with compound (B).

The organic groups bonded to the silicon atoms of compound (A) may be alkyl groups such as methyl, ethyl, propyl, butyl, octyl; substituted alkyl groups such as 2-phenylethyl, 2-phenylpropyl or 3,3,3-trifluoropropyl; aryl groups such as phenyl, tolyl, xylyl; substituted aryl groups such as phenylethyl; and substituted monovalent hydrocarbon-based groups such as an epoxy group, a carboxylate ester group or a mercapto group.

Compound (A) can thus be chosen from methylhydrogenopolysiloxanes comprising trimethylsiloxo end groups, dimethylsiloxane-methylhydrosiloxane copolymers comprising trimethylsiloxo end groups, and dimethylsiloxane-methylhydrosiloxane cyclic copolymers.

Compound (B) is advantageously a diorganopolysiloxane containing at least two lower alkenyl groups (for example C₂-C₄); the lower alkenyl group may be chosen from vinyl, allyl and propenyl groups. These lower alkenyl groups may be located at any
position on the organopolysiloxane molecule but are preferably located at the ends of the organopolysiloxane molecule. The organopolysiloxane (B) may have a branched-chain, linear-chain, cyclic or network structure but the linear-chain structure is preferred. Compound (B) may have a viscosity ranging from the liquid state to the gum state. Preferably, compound (B) has a viscosity of at least 100 centistokes at 25°C.

Besides the abovementioned alkenyl groups, the other organic groups bonded to the silicon atoms in compound (B) may be alkyl groups such as methyl, ethyl, propyl, butyl or octyl; substituted alkyl groups such as 2-phenylethyl, 2-phenylpropyl or 3,3,3-trifluoropropyl; aryl groups such as phenyl, tolyl or xylyl; substituted aryl groups such as phenylethyl; and substituted monovalent hydrocarbon-based groups such as an epoxy group, a carboxylate ester group or a mercapto group.

The organopolysiloxanes (B) can be chosen from methylvinylpolysiloxanes, methylvinylsiloxane-dimethylsiloxane copolymers, dimethylpolysiloxanes comprising dimethylvinylsiloxane end groups, dimethylsiloxane-methylphenylsiloxane copolymers comprising dimethylvinylsiloxane end groups, dimethylsiloxane-diphenylsiloxane-methylvinylsiloxane copolymers comprising dimethylvinylsiloxane end groups, dimethylsiloxane-methylvinylsiloxane copolymers comprising trimethylsiloxane end groups, dimethylsiloxane-methylphenylsiloxane-methylvinylsiloxane copolymers comprising trimethylsiloxane end groups, methyl(3,3,3-trifluoropropyl)polysiloxanes comprising dimethylvinylsiloxane end groups, and dimethylsiloxane-methyl(3,3,3-trifluoropropyl)siloxane copolymers comprising dimethylvinylsiloxane end groups.

In particular, the organopolysiloxane elastomer can be obtained by reaction of dimethylpolysiloxane comprising dimethylvinylsiloxane end groups and of methylhydrogenopolysiloxane comprising trimethylsiloxane end groups, in the presence of a platinum catalyst.

Advantageously, the sum of the number of ethylenic groups per molecule of compound (B) and of the number of hydrogen atoms bonded to silicon atoms per molecule of compound (A) is at least 5.

It is advantageous for compound (A) to be added in an amount such that the molecular ratio of the total amount of hydrogen atoms bonded to silicon atoms in compound (A) to the total amount of all the ethylenically unsaturated groups in compound (B) is within the range from 1.5/1 to 20/1.
Compound (C) is the catalyst for the crosslinking reaction, and is especially chloroplatinic acid, chloroplatinic acid-olefin complexes, chloroplatinic acid-alkenylsiloxane complexes, chloroplatinic acid-diketone complexes, platinum black and platinum on a support.

Catalyst (C) is preferably added in an amount of from 0.1 to 1000 parts by weight and better still from 1 to 100 parts by weight, as clean platinum metal, per 1000 parts by weight of the total amount of compounds (A) and (B).

The elastomer is advantageously a non-emulsifying elastomer.

The term “non-emulsifying” defines organopolysiloxane elastomers not containing any hydrophilic chains, and in particular not containing any polyoxyalkylene units (especially polyoxyethylene or polyoxypropylene) or any polyglyceryl units. Thus, according to one particular mode of the invention, the composition comprises an organopolysiloxane elastomer free of polyoxyalkylene units and of polyglyceryl units.

In particular, the organopolysiloxane elastomer used in the present invention is chosen from Dimethicone Crosspolymer (INCI name), Dimethicone (and) Dimethicone crosspolymer, Vinyl Dimethicone Crosspolymer (INCI name), Dimethicone/Vinyl Dimethicone Crosspolymer (INCI name), Dimethicone Crosspolymer-3 (INCI name), and in particular Dimethicone crosspolymer and Dimethicone (and) Dimethicone crosspolymer.

The organopolysiloxane elastomer particles may be conveyed in the form of a gel formed from an elastomeric organopolysiloxane included in at least one hydrocarbon-based oil and/or one silicone oil. In these gels, the organopolysiloxane particles are often non-spherical particles.


The silicone elastomer is generally in the form of a gel, a paste or a powder, but advantageously in the form of a gel in which the silicone elastomer is dispersed in a linear silicone oil (dimethicone) or cyclic silicone oil (e.g.: cyclopentasiloxane), advantageously in a linear silicone oil.

Non-emulsifying elastomers that may be used more particularly include those sold under the names KSG-6, KSG-15, KSG-16, KSG-18, KSG-41, KSG-42, KSG-43 and
KSG-44 by the company Shin-Etsu, DC9040 and DC9041 by the company Dow Corning, and SFE 839 by the company General Electric.

According to a particular mode, use is made of a gel of silicone elastomer dispersed in a silicone oil chosen from a non-exhaustive list comprising cyclopentadimethylsiloxane, dimethicones, dimethylsiloxanes, methyl trimethicone, phenyl methicone, phenyl dimethicone, phenyl trimethicone and cyclomethicone, preferably a linear silicone oil chosen from polydimethylsiloxanes (PDMS) or dimethicones with a viscosity at 25°C ranging from 1 to 500 cSt, optionally modified with optionally fluorinated aliphatic groups, or with functional groups such as hydroxyl, thiol and/or amine groups.

Mention may be made especially of the compounds having the following INCI names:

- dimethicone/vinyl dimethicone crosspolymer, such as USG-105 and USG-107A from the company Shin-Etsu; DC9506 and DC9701 from the company Dow Corning;

- dimethicone/vinyl dimethicone crosspolymer (and) dimethicone, such as KSG-6 and KSG-16 from the company Shin-Etsu;

- dimethicone/vinyl dimethicone crosspolymer (and) cyclopentasiloxane, such as KSG-15;

- cyclopentasiloxane (and) dimethicone crosspolymer, such as DC9040, DC9045 and DC5930 from the company Dow Corning;

- dimethicone (and) dimethicone crosspolymer, such as DC9041 from the company Dow Corning.

- dimethicone (and) dimethicone crosspolymer, such as Dow Corning EL-9240® Silicone Elastomer Blend from the company Dow Corning (mixture of polydimethylsiloxane crosslinked with hexadiene/polydimethylsiloxane (2 cSt));

- C_{4-24} alkyl dimethicone/divinyl dimethicone crosspolymer, such as NuLastic Silk MA from the company Alzo.

As examples of silicone elastomers dispersed in a linear silicone oil that may advantageously be used according to the invention, mention may especially be made of the following references:
- dimethicone/vinyl dimethicone crosspolymer (and) dimethicone, such as KSG-6 and KSG-16 from the company Shin-Etsu;
- dimethicone (and) dimethicone crosspolymer, such as DC9041 from the company Dow Corning; and
- dimethicone (and) dimethicone crosspolymer, such as Dow Corning EL-9240® Silicone Elastomer Blend from the company Dow Corning (mixture of polydimethylsiloxane crosslinked with hexadiene/polydimethylsiloxane (2 cSt)).

According to a preferred embodiment, the composition according to the invention comprises at least one crosslinked silicone elastomer having the INCI name “dimethicone crosspolymer” or “dimethicone (and) dimethicone crosspolymer”, with, preferably, a dimethicone having a viscosity ranging from 1 to 100 cSt, in particular from 1 to 10 cSt at 25°C, such as the mixture of polydimethylsiloxane crosslinked with hexadiene/polydimethylsiloxane (5 cSt) sold under the name DC 9041 by the company Dow Corning or the mixture of polydimethylsiloxane crosslinked with hexadiene/polydimethylsiloxane (2 cSt) sold under the name EL-9240® by the company Dow Corning.

According to a particularly preferred embodiment, the composition according to the invention comprises at least one crosslinked silicone elastomer having the INCI name “dimethicone (and) dimethicone crosspolymer”, preferably with a dimethicone having a viscosity ranging from 1 to 100 cSt, in particular from 1 to 10 cSt at 25°C, such as the mixture of polydimethylsiloxane crosslinked with hexadiene/polydimethylsiloxane (5 cSt) sold under the name DC 9041 by the company Dow Corning.

The organopolysiloxane elastomer particles may also be used in powder form: mention may be made especially of the powders sold under the names Dow Corning 9505 Powder and Dow Corning 9506 Powder by the company Dow Corning, these powders having the INCI name: dimethicone/vinyl dimethicone crosspolymer.

The organopolysiloxane powder may also be coated with silsesquioxane resin, as described, for example, in patent US 5 538 793.

Said silicone elastomer particles are preferably spherical with a mean size ranging from 0.1 to 500 µm, preferably from 3 to 200 µm and better still from 10 to 20 µm.

They may have a JIS-A hardness of less than or equal to 80 (especially ranging
from 5 to 80) and preferably less than or equal to 65 (especially ranging from 5 to 65). The
JIS-A hardness is measured according to the method JIS K 6301 (1995) established by the
Japanese Industrial Standards Committee.

The silicone elastomer powders coated with a silicone resin of the invention are
765656.

Such elastomeric powders are sold under the names KSP-100, KSP-101, KSP-
102, KSP-103, KSP-104 and KSP-105 by the company Shin-Etsu, and have the INCI
name: vinyl dimethicone/methicone silsesquioxane crosspolymer.

As examples of organopolysiloxane powders coated with silsesquioxane resin
that may advantageously be used according to the invention, mention may be made
especially of the reference KSP-100 from the company Shin-Etsu.

According to a particularly preferred mode, the composition according to the
invention comprises at least one crosslinked silicone elastomer preferably of INCI name:
v vinyl dimethicone/methicone silsesquioxane crosspolymer as oily gelling agent and/or
soft-focus filler, preferably as oily gelling agent and soft-focus filler.

As preferred lipophilic gelling agent of organopolysiloxane elastomer type, mention
may be made especially of crosslinked organopolysiloxane elastomers chosen from
Dimethicone Crosspolymer (INCI name), Dimethicone (and) Dimethicone Crosspolymer
(INCI name), Vinyl Dimethicone Crosspolymer (INCI name), Dimethicone/Vinyl
Dimethicone Crosspolymer (INCI name), Dimethicone Crosspolymer-3 (INCI name), and
in particular Dimethicone Crosspolymer, more preferentially Dimethicone Crosspolymer.

The organopolysiloxane elastomer may be present in a composition of the
present invention in a content of between 5% and 60% by weight of active material (dry),
especially between 10% and 50% by weight and preferably between 15% and 40% by
weight, relative to the total weight of the oily phase.

The organopolysiloxane elastomer may be present in a composition of the
present invention in a content of between 0.2% and 25% by weight of active material
(solids), especially between 1% and 10% by weight relative to the total weight of the
composition.
III. Semi-crystalline polymers

The composition according to the invention may comprise at least one semi-crystalline polymer. Preferably, the semi-crystalline polymer has an organic structure, and a melting point of greater than or equal to 30°C.

For the purposes of the invention, the term “semi-crystalline polymer” is intended to mean polymers comprising a crystallizable portion and an amorphous portion and having a first-order reversible change of phase temperature, in particular of melting point (solid-liquid transition). The crystallizable part is either a side chain (or pendent chain) or a block in the backbone.

When the crystallizable portion of the semi-crystalline polymer is a block of the polymer backbone, this crystallizable block has a chemical nature different than that of the amorphous blocks; in this case, the semi-crystalline polymer is a block copolymer, for example of the diblock, triblock or multiblock type. When the crystallizable part is a chain that is pendent on the backbone, the semi-crystalline polymer may be a homopolymer or a copolymer.

The melting point of the semi-crystalline polymer is preferably less than 150°C.

The melting point of the semi-crystalline polymer is preferably greater than or equal to 30°C and less than 100°C. More preferably, the melting point of the semi-crystalline polymer is greater than or equal to 30°C and less than 70°C.

The semi-crystalline polymer(s) according to the invention are solid at room temperature (25°C) and atmospheric pressure (760 mmHg), with a melting point of greater than or equal to 30°C. The melting point values correspond to the melting point measured using a differential scanning calorimeter (DSC), such as the calorimeter sold under the name DSC 30 by the company Mettler, with a temperature rise of 5 or 10°C per minute (the melting point under consideration is the point corresponding to the temperature of the most endothermic peak in the thermogram).

The semi-crystalline polymer(s) according to the invention preferably have a melting point that is higher than the temperature of the keratinous support intended to receive said composition, in particular the skin or the lips.

According to the invention, the semi-crystalline polymers are advantageously soluble in the fatty phase, especially to at least 1% by weight, at a temperature that is
higher than their melting point. Besides the crystallizable chains or blocks, the blocks of the polymers are amorphous.

For the purposes of the invention, the term “crystallizable chain or block” is intended to mean a chain or block which, if it were alone, would change from the amorphous state to the crystalline state reversibly, depending on whether the temperature is above or below the melting point. For the purposes of the invention, a chain is a group of atoms, which are pendent or lateral relative to the polymer backbone. A “block” is a group of atoms belonging to the backbone, this group constituting one of the repeating units of the polymer.

Preferably, the polymer backbone of the semi-crystalline polymers is soluble in the fatty phase at a temperature above their melting point.

Preferably, the crystallizable blocks or chains of the semi-crystalline polymers represent at least 30% of the total weight of each polymer and better still at least 40%. The semi-crystalline polymers containing crystallizable side chains are homopolymers or copolymers. The semi-crystalline polymers of the invention containing crystallizable blocks are block or multiblock copolymers. They may be obtained via polymerization of a monomer containing reactive double bonds (or ethylenic bonds) or via polycondensation. When the polymers of the invention are polymers containing crystallizable side chains, these side chains are advantageously in random or statistical form.

Preferably, the semi-crystalline polymers of the invention are of synthetic origin.

According to a preferred embodiment, the semi-crystalline polymer is chosen from:

- homopolymers and copolymers comprising units resulting from the polymerization of one or more monomers bearing crystallizable hydrophobic side chain(s),
- polymers bearing in the backbone at least one crystallizable block,
- polycondensates of aliphatic or aromatic or aliphatic/aromatic polyester type,
- copolymers of ethylene and propylene prepared via metallocene catalysis, and
- acrylate/silicone copolymers.

The semi-crystalline polymers that may be used in the invention may be chosen in particular from:
- block copolymers of polyolefins of controlled crystallization, whose monomers are described in EP 0 951 897,
- polycondensates, in particular of aliphatic or aromatic or aliphatic/aromatic polyester type,
- copolymers of ethylene and propylene prepared via metallocene catalysis,
- homopolymers or copolymers bearing at least one crystallizable side chain and homopolymers or copolymers bearing in the backbone at least one crystallizable block, such as those described in document US 5 156 911, such as the (C_{10}-C_{30})alkyl polyacrylates corresponding to the Intelimer® products from the company Landec described in the brochure Intalimer®, Landec IP22 (Rev. 4-97), for example the product Intelimer® IPA 13-1 from the company Landec, which is a polystearyl acrylate with a molecular weight of about 145 000 and a melting point of 49°C,
- homopolymers or copolymers bearing at least one crystallizable side chain, in particular containing fluoro group(s), as described in document WO 01/19333,
- acrylate/silicone copolymers, such as copolymers of acrylic acid and of stearyl acrylate bearing polydimethylsiloxane grafts, copolymers of stearyl methacrylate bearing polydimethylsiloxane grafts, copolymers of acrylic acid and of stearyl methacrylate bearing polydimethylsiloxane grafts, copolymers of methyl methacrylate, butyl methacrylate, 2-ethylhexyl acrylate and stearyl methacrylate bearing polydimethylsiloxane grafts. Mention may be made in particular of the copolymers sold by the company Shin-Etsu under the names KP-561 (CTFA name: acrylates/dimethicone), KP-541 (CTFA name: acrylates/dimethicone and isopropyl alcohol), KP-545 (CTFA name: acrylates/dimethicone and cyclopentasiloxane),
- and mixtures thereof.

Preferably, the amount of semi-crystalline polymer(s), preferably chosen from semi-crystalline polymers bearing crystallizable side chains, represents from 0.1% to 30% by weight of solids relative to the total weight of the oily phase, for example from 0.5% to 25% by weight, better still from 5% to 20% or even from 5% to 12% by weight, relative to the total weight of the oily phase.

**IV. Dextrin esters**
The composition according to the invention may comprise as lipophilic gelling agent at least one dextrin ester.

In particular, the composition preferably comprises at least one preferably C_{12} to C_{24} and in particular C_{14} to C_{18} fatty acid ester of dextrin, or mixtures thereof.

Preferably, the dextrin ester is an ester of dextrin and of a C_{12}-C_{18} and in particular C_{14}-C_{18} fatty acid.

Preferably, the dextrin ester is chosen from dextrin myristate and/or dextrin palmitate, and mixtures thereof.

According to a particular embodiment, the dextrin ester is dextrin myristate, such as the product sold especially under the name Rheopiral MKL-2 by the company Chiba Flour Milling.

According to a preferred embodiment, the dextrin ester is dextrin palmitate. This product may be chosen, for example, from those sold under the names Rheopiral TL®, Rheopiral KL® and Rheopiral® KL2 by the company Chiba Flour Milling.

In a particularly preferred manner, the oily phase of a composition according to the invention may comprise from 0.1% to 30% by weight, preferably from 2% to 25% and preferably from 7.5% to 17% by weight of dextrin ester(s) relative to the total weight of the oily phase.

In a particularly preferred manner, the composition according to the invention may comprise between 0.1% and 10% by weight and preferably between 0.5% and 5% by weight of dextrin palmitate relative to the total weight of the oily phase. The dextrin palmitate may especially be the product sold under the names Rheopiral TL®, Rheopiral KL® or Rheopiral® KL2 by the company Chiba Flour Milling.

V. Polymers containing hydrogen bonding (or hydrogen bonding polymer)

As representatives of polymers containing hydrogen bonding that are suitable for use in the invention, mention may be made most particularly of polyamides and in particular hydrocarbon-based polyamides and silicone polyamides.

Polyamides
The oily phase of a composition according to the invention may comprise at least one polyamide chosen from hydrocarbon-based polyamides and silicone polyamides, and mixtures thereof.

Preferably, the total content of polyamide(s) is between 0.1% and 30% by weight expressed as solids, preferably between 0.1% and 20% by weight and preferably between 0.5% and 10% by weight relative to the total weight of the oily phase.

For the purposes of the invention, the term “polyamide” means a compound containing at least 2 repeating amide units, preferably at least 3 repeating amide units and better still 10 repeating amide units.

a) Hydrocarbon-based polyamide

The term “hydrocarbon-based polyamide” means a polyamide formed essentially of, indeed even consisting of, carbon and hydrogen atoms, and optionally of oxygen or nitrogen atoms, and not comprising any silicon or fluorine atoms. It may contain alcohol, ester, ether, carboxylic acid, amine and/or amide groups.

For the purposes of the invention, the term “functionalized chain” means an alkyl chain comprising one or more functional groups or reagents chosen especially from hydroxyl, ether, ester, oxyalkylene and polyoxyalkylene groups.

Advantageously, this polyamide of the composition according to the invention has a weight-average molecular mass of less than 100 000 g/mol especially ranging from 1000 to 100 000 g/mol, in particular less than 50 000 g/mol especially ranging from 1000 to 50 000 g/mol and more particularly ranging from 1000 to 30 000 g/mol, preferably from 2000 to 20 000 g/mol and better still from 2000 to 10 000 g/mol.

This polyamide is insoluble in water, especially at 25°C.

According to a first embodiment of the invention, the polyamide used is a polyamide of formula (I):

\[
\begin{align*}
\text{X} & \quad \text{C}_R \quad \text{C}_R \quad \text{NH} \quad \text{R}_3 \quad \text{NH} \quad \text{a} \quad \text{C}_R \quad \text{C}_R \quad \text{C} \quad \text{X} \\
\text{O} & \quad \text{O} & \quad \text{O} & \quad \text{O}
\end{align*}
\]

in which X represents a group –N(R₁)₂ or a group –OR₁ in which R₁ is a linear or branched C₈ to C₂₂ alkyl radical which may be identical or different, R₂ is a C₂₈-C₄₂ diacid dimer residue, R₃ is an ethylenediamine radical and n is between 2 and 5;
and mixtures thereof.

According to a particular mode, the polyamide used is an amide-terminated polyamide of formula (Ia):

\[
X = \begin{array}{c}
\text{C} & \text{R}_2 & \text{C} & \text{NH} & \text{R}_3 & \text{NH} & \text{n} & \text{C} & \text{R}_2 & \text{C} & \text{X} \\
\text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O}
\end{array}
\] (Ia)

in which X represents a group \(-\text{N(R}_1\text{)}_2\) in which \(\text{R}_1\) is a linear or branched \(\text{C}_8\) to \(\text{C}_{22}\), alkyl radical which may be identical or different, \(\text{R}_2\) is a \(\text{C}_{28}\)-\(\text{C}_{42}\) diacid dimer residue, \(\text{R}_3\) is an ethylenediamine radical and \(n\) is between 2 and 5;

and mixtures thereof.

The oily phase of a composition according to the invention may also comprise, additionally in this case, at least one additional polyamide of formula (Ib):

\[
X = \begin{array}{c}
\text{C} & \text{R}_2 & \text{C} & \text{NH} & \text{R}_3 & \text{NH} & \text{n} & \text{C} & \text{R}_2 & \text{C} & \text{X} \\
\text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O} & \text{O}
\end{array}
\] (Ib)

in which X represents a group \(-\text{OR}_1\) in which \(\text{R}_1\) is a linear or branched \(\text{C}_8\) to \(\text{C}_{22}\) and preferably \(\text{C}_{16}\) to \(\text{C}_{22}\), alkyl radical which may be identical or different, \(\text{R}_2\) is a \(\text{C}_{28}\)-\(\text{C}_{42}\) diacid dimer residue, \(\text{R}_3\) is an ethylenediamine radical and \(n\) is between 2 and 5, such as the commercial products sold by the company Arizona Chemical under the names Uniclear 80 and Uniclear 100 or Uniclear 80 V, Uniclear 100 V and Uniclear 100 VG, the INCI name of which is Ethylenediamine/stearl dimer dilinoleate copolymer.

b) Silicone polyamide

The silicone polyamides are preferably solid at room temperature (25°C) and atmospheric pressure (760 mmHg).

The silicone polyamides may preferentially be polymers comprising at least one unit of formula (III) or (IV):
in which:

- \( R^4, R^5, R^6 \) and \( R^7 \), which may be identical or different, represent a group chosen from:
  - saturated or unsaturated, \( C_1 \) to \( C_{40} \) linear, branched or cyclic hydrocarbon-based groups, which may contain in their chain one or more oxygen, sulfur and/or nitrogen atoms, and which may be partially or totally substituted with fluorine atoms,
  - \( C_6 \) to \( C_{10} \) aryl groups, optionally substituted with one or more \( C_1 \) to \( C_4 \) alkyl groups,
  - polyorganosiloxane chains possibly containing one or more oxygen, sulfur and/or nitrogen atoms,
- the groups \( X \), which may be identical or different, represent a linear or branched \( C_1 \) to \( C_{30} \) alkylenediy group, possibly containing in its chain one or more oxygen and/or nitrogen atoms,
- \( Y \) is a saturated or unsaturated \( C_1 \) to \( C_{50} \) linear or branched alkylene, arylene, cycloalkylene, alkarylene or arylalkylene divalent group, which may comprise one or more oxygen, sulfur and/or nitrogen atoms, and/or may bear as substituent one or the following atoms or groups of atoms: fluorine, hydroxyl, \( C_3 \) to \( C_8 \) cycloalkyl, \( C_1 \) to \( C_{40} \) alkyl, \( C_5 \) to \( C_{10} \) aryl, phenyl optionally substituted with one to three \( C_1 \) to \( C_3 \) alkyl, \( C_1 \) to \( C_3 \) hydroxyalkyl and \( C_1 \) to \( C_6 \) aminoalkyl groups, or

\( Y \) represents a group corresponding to the formula:
in which
- \( T \) represents a linear or branched, saturated or unsaturated, \( C_3 \) to \( C_{24} \) trivalent or tetravalent hydrocarbon-based group optionally substituted with a polyorganosiloxane chain, and possibly containing one or more atoms chosen from O, N and S, or \( T \) represents a trivalent atom chosen from N, P and Al, and
- \( R^8 \) represents a linear or branched \( C_1 \) to \( C_{50} \) alkyl group or a polyorganosiloxane chain, possibly comprising one or more ester, amide, urethane, thiocarbamate, urea, thiourea and/or sulfonamide groups, which may possibly be linked to another chain of the polymer,

- \( n \) is an integer ranging from 2 to 500 and preferably from 2 to 200, and \( m \) is an integer ranging from 1 to 1000, preferably from 1 to 700 and even better still from 6 to 200.

According to a particular mode, the silicone polyamide comprises at least one unit of formula (III) in which \( m \) ranges from 50 to 200, in particular from 75 to 150 and is preferably about 100.

More preferably, \( R^4, R^5, R^6 \) and \( R^7 \) independently represent a linear or branched \( C_1 \) to \( C_{40} \) alkyl group, preferably a group \( \text{CH}_3, \text{C}_2 \text{H}_5, \text{n-C}_3 \text{H}_7 \) or an isopropyl group in formula (III).

As an example of silicone polymers that may be used, mention may be made of one of the silicone polyamides obtained in accordance with Examples 1 to 3 of document US 5 981 680.

Mention may be made of the compounds sold by the company Dow Corning under the names DC 2-8179 (DP 100) and DC 2-8178 (DP 15), the INCI name of which is Nylon-611/dimethicone copolymer, i.e. Nylon-611/dimethicone copolymers. The silicone polymers and/or copolymers advantageously have a temperature of transition from the solid state to the liquid state ranging from 45°C to 190°C. Preferably, they have a temperature of transition from the solid state to the liquid state ranging from 70 to 130°C and better still from 80°C to 105°C.
Preferably, the total content of polyamide(s) and/or silicone polyamide(s) is
between 0.5% and 25% by weight of solids, in particular from 2% to 20% by weight and
preferably between 2% and 12% by weight relative to the total weight of the oily phase.

Advantageously, the polymer containing hydrogen bonding is chosen from the
ethylenediamine/stearyl dimer dilinoleate copolymer and Nylon-611/dimethicone
copolymers.

According to an advantageous variant, a composition according to the
invention comprises a lipophilic gelling agent chosen from particulate gelling agents,
organopolysiloxane elastomers, semi-crystalline polymers, dextrin esters and polymers
containing hydrogen bonding, and mixtures thereof, and in particular at least one
organopolysiloxane elastomer.

**HYDROPHILIC GELLING AGENT/LIPOPHILIC GELLING AGENT SYSTEM**

As preferred lipophilic gelling agents of the organopolysiloxane elastomer
type, mention may be made more particularly of crosslinked organopolysiloxane
elastomers chosen from Dimethicone Crosspolymer (INCI name), Dimethicone (and)
Dimethicone Crosspolymer (INCI name), Vinyl Dimethicone Crosspolymer (INCI name),
Dimethicone/Vinyl Dimethicone Crosspolymer (INCI name), Dimethicone Crosspolymer-
3 (INCI name), and in particular Dimethicone Crosspolymer (INCI name) and
Dimethicone (and) Dimethicone Crosspolymer (INCI name).

According to a preferred mode, as preferred lipophilic gelling agents, mention
may be made more particularly of a gel of silicone elastomer dispersed in a silicone oil
and/or a powder of organopolysiloxane elastomer coated with silsesquioxane resin.

According to a preferred mode, as preferred lipophilic gelling agents, mention
may be made more particularly of the mixtures of an organopolysiloxane elastomer powder
coated with silsesquioxane resin with an organopolysiloxane elastomer powder coated with
hydropilic silsesquioxane resin.

According to a particularly preferred embodiment, the composition according
to the invention comprises, as preferred lipophilic gelling agent, at least one crosslinked
elastomeric organopolysiloxane powder coated with silsesquioxane resin, in particular of
INCI name: vinyl dimethicone/methicone silsesquioxane crosspolymer, such as the
reference KSP-100 sold by the company Shin-Etsu and optionally a Dimethicone crosspolymer.

As non-limiting illustrations of hydrophilic gelling agent/lipophilic gelling agent systems that are most particularly suitable for use in the invention, mention may be made especially of the copolymer system of 2-acrylamido-2-methylpropanesulfonic acid/organopolysiloxane elastomer crosspolymer with optionally a Dimethicone crosspolymer.

Thus, a composition according to the invention may advantageously comprise as hydrophilic gelling agent-lipophilic gelling agent systems, a crosslinked homopolymer system of ammonium acrylamido-2-methylpropanesulfonate - crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin, in particular vinyl dimethicone/methicone silsesquioxane crosspolymer optionally with a dimethicone crosspolymer.

**SOFT-FOCUS FILLERS**

As stated previously, the compositions according to the invention comprise at least two soft-focus fillers, these two soft-focus fillers being a crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin and a crosslinked elastomeric organopolysiloxane powder coated with hydrophilic silicone resin.

The crosslinked elastomeric organopolysiloxane powder coated with hydrophilic silicone resin is generally referred to as being “hydrophilic-treated”, i.e. treated to render it hydrophilic.

Advantageously, to render hydrophilic the crosslinked elastomeric organopolysiloxane powder coated with silicone resin, it is subjected to a treatment directed towards combining therewith at least one cationic polymer and advantageously at least one nonionic or cationic surfactant. The cationic polymer optionally with the surfactant(s) and the crosslinked elastomeric organopolysiloxane powder may be combined via chemical bonds or via interactions, especially via Van der Waals bonds.

In particular, the hydrophilic-treated crosslinked elastomeric organopolysiloxane powder coated with silicone resin is combined with at least one cationic polymer, preferably a quaternary ammonium polymer, especially a polymer of INCI name “Polyquaternium” and optionally with at least one C₈-C₂₂ fatty acid ester of a polyl
preferably polyoxyethylenated with 2 to 20 mol of OE such as C₈-C₁₈ fatty acid esters of glycerol polyoxyethylenated with 3 to 15 mol of OE, preferably a polyoxyethylenated C₈-C₁₈ glycol ester, more preferentially a C₈-C₁₈ fatty acid ester of glycerol polyoxyethylenated with 5 to 10 mol of OE.

According to one embodiment, the hydrophilic-treated crosslinked elastomeric organopolysiloxane powder coated with silicone resin according to the invention is combined with at least one quaternary ammonium polymer, preferably chosen from Polyquaternium-6 and Polyquaternium-7, preferentially Polyquaternium-7.

Polyquaternium-6 is a poly(diallyldimethylammonium chloride).

Polyquaternium-7 is a copolymer of acrylamide and of diallyldimethylammonium chloride.

Advantageously, the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin used as soft-focus filler in the compositions according to the invention corresponds to the INCI name: vinyl dimethicone/methicone silsesquioxane crosspolymer and is especially sold under the reference KSP-100 by the company Shin-Etsu.

Advantageously, the crosslinked elastomeric organopolysiloxane powder coated with hydrophilic-treated silicone resin, used as soft-focus filler in the compositions according to the invention, corresponds to the INCI name: vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7 glyceryl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glyceryl cocoate and is especially sold under the reference MW-SRP-100 by the company Miyoshi Kasei.

According to an embodiment variant, a composition according to the invention may comprise from 0.2% to 40% by weight, especially from 0.5% to 37% by weight, in particular from 5% to 15% by weight of crosslinked elastomeric organopolysiloxane powder coated with silicone resin, in particular vinyl dimethicone/methicone silsesquioxane crosspolymer, relative to the total weight of said composition.

According to an embodiment variant, a composition according to the invention may comprise from 0.2% to 40% by weight, especially from 0.5% to 37% by weight, preferably from 2% to 35% and advantageously from 5% to 20% by weight of crosslinked elastomeric organopolysiloxane powder coated with hydrophilic-treated silicone resin, in particular vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7.
glyceryl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glyceryl cocoate, relative to the total weight of said composition.

According to an embodiment variant, a composition according to the invention may comprise from 0.2% to 40% by weight, especially from 0.5% to 37% by weight, preferably from 2% to 35% and advantageously from 10% to 30% by weight of soft-focus filler(s) relative to the total weight of said composition.

In the composition according to the invention, the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin, in particular vinyl dimethicone/methicone silsesquioxane crosspolymer, is present in the gelled oily phase and the hydrophilic crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin, in particular vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7 glyceryl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glyceryl cocoate, is present in the gelled aqueous phase.

According to an advantageous embodiment variant, the soft-focus filler: the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin, such as vinyl dimethicone/methicone silsesquioxane crosspolymer, also acts as lipophilic gelling agent.

According to this advantageous variant, the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin, such as vinyl dimethicone/methicone silsesquioxane crosspolymer, is preferably present in a content ranging from 5% to 15% by weight, preferably from 7% to 12% by weight, relative to the total weight of the composition.

This type of fillers is particularly advantageous in so far as they make it possible to soften imperfections. As indicated previously, the performance of these fillers is advantageously increased by means of using them in a composition according to the invention.

The soft-focus effect is characterized by Haze and transparency (transmission TH) measurements. The “Haze” corresponds to the percentage of light scattered relative to the total transmittance according to standard ASTM D 1003 (Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics).

25 μm films of composition are applied to 50 μm polyethylene (PE) films. The film is then measured after one hour of drying at room temperature. Finally, the film is placed
in the machine and transparency and Haze measurements are taken.

In particular, a composition according to the invention comprises:
- at least one aqueous phase gelled with at least one hydrophilic gelling agent, said hydrophilic gelling agent being a homopolymer of a monomer bearing a sulfonic group, preferably a crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer; and

  - at least one oily phase gelled with at least one lipophilic gelling agent;
said phases forming therein a macroscopically homogeneous mixture;
said composition also comprising at least two soft-focus fillers, these two soft-focus fillers being a crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin and a hydrophilic crosslinked elastomeric organopolysiloxane powder coated with silicone resin, and is characterized in that the Haze and the transmission TH are, respectively, greater than or equal to 75 according to standard ASTM D 1003 (Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics).

Needless to say, as indicated below, the compositions according to the invention may also contain additional soft-focus fillers and/or additional conventional fillers, it being understood that a person skilled in the art will take care to ensure not to choose fillers whose nature or amount in the composition would have an impact on the soft-focus effect afforded by the soft-focus fillers.

**ADDITIONAL SOFT-FOCUS FILLERS**

In addition, the present invention may also comprise at least one additional soft-focus filler other than the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin and the hydrophilic-treated crosslinked elastomeric organopolysiloxane powder coated with silicone resin.

Needless to say, these additional fillers are used in suitable contents and under suitable conditions so as not to be detrimental to the compositions.

For the purposes of the present invention, the term “fillers” should be understood as meaning colourless or white, solid particles of any form, of natural or synthetic, mineral or organic nature, which are present in a form that is insoluble and dispersed in the medium of the composition.
The soft-focus fillers that may be used in the composition according to the invention are especially characterized by a refractive index of between 1.33 and 2.

They will generally comprise or consist of particles with a number-average size of less than or equal to 25 µm, especially less than or equal to 20 µm, in particular less than or equal to 15 µm.

The term “number-average size” denotes the dimension given by the statistical particle size distribution to half the population, known as D50, measured using a Malvern Mastersizer.

These particles may be of any form and may in particular be spherical or non-spherical.

Said soft-focus filler(s) are present totally or partly, and preferably solely, in the gelled aqueous phase or are present totally or partly, and preferably solely, in the gelled oily phase.

In particular, the soft-focus filler is chosen from polytetrafluoroethylene powders, polyurethane powders, carnauba microwaxes, microwaxes of synthetic wax, silicone resin powders, hollow hemispherical silicone particles, acrylic copolymer powders, vinylidene/acrylonitrile/methylene methacrylate expanded microspheres, polyethylene powders, especially comprising at least one ethylene/acrylic acid copolymer, polymethyl methacrylate powders, crosslinked elastomeric organopolysiloxane powders, crosslinked elastomeric organopolysiloxane powders coated with silicone resin, starch powders, polyamide powders, silica and silicate powders, especially of alumina, hydrophobic aerogel particles, talc with a number-average size of less than or equal to 3 microns, silica/TiO₂ composites, barium sulfate particles, boron nitride particles, silica particles 1% to 2% surface-treated with a mineral wax, amorphous silica microspheres, silica microbeads, talc/TiO₂/alumina/silica composite powders, silicone elastomers and spherical cellulose beads, and mixtures thereof.

According to one embodiment, said soft-focus filler(s) are present totally or partly, and preferably solely, in the gelled aqueous phase.

According to another embodiment, said soft-focus filler(s) are present totally or partly, and preferably solely, in the gelled oily phase.
According to another embodiment, the composition comprises a soft-focus filler in the gelled aqueous phase and a second soft-focus filler in the oily phase, the latter also possibly acting as oily gelling agent.

In particular, when the soft-focus filler also acts as oily gelling agent, then it is present in a content ranging from 5% to 20% by weight and preferably from 7% to 15% by weight relative to the total weight of the composition.

According to another embodiment, in a composition according to the invention, the soft-focus filler(s) are different from the oily gelling agent(s).

A composition according to the invention may comprise from 0.2% to 40% by weight, especially from 0.5% to 37% by weight, in particular from 0.75% to 35% by weight and preferably from 1% to 30% by weight of filler(s) with a soft-focus effect, relative to the total weight of said composition.

**Aqueous phase**

The aqueous phase of a composition according to the invention comprises water and optionally 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 composition of the invention may also be volatile.

Among the water-soluble solvents that may be used in the 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\textsubscript{3} and C\textsubscript{4} ketones and C\textsubscript{2}-C\textsubscript{4} aldehydes.

The aqueous phase (water and optionally the water-miscible solvent) may be present in the composition in a content ranging from 5% to 95%, better still from 30% to 80% by weight and preferably from 40% to 75% by weight relative to the total weight of said composition.

According to another embodiment variant, the aqueous phase of a composition according to the invention may comprise at least one C\textsubscript{2}-C\textsubscript{32} polyol.
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 suitable for the invention can be a compound of saturated or unsaturated and linear, branched or cyclic alkyl type carrying, on the alkyl chain, at least two \(-\text{OH}\) functional groups, in particular at least three \(-\text{OH}\) functional groups and more particularly at least four \(-\text{OH}\) functional groups.

The polyols advantageously suitable for the formulation of a composition according to the present invention are those exhibiting in particular from 2 to 32 carbon atoms and preferably from 3 to 16 carbon atoms.

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

According to a particular mode, the composition of the invention may comprise at least propylene glycol.

According to another particular mode, the composition of the invention may comprise at least glycerol.

**Oily phase**

For the purposes of the invention, an oily phase comprises at least one oil.

The term “oil” means any fatty substance that is in liquid form at room temperature and atmospheric pressure.

An oily phase that is suitable for preparing the cosmetic compositions 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.

For the purposes of the present invention, the term “non-volatile oil” means an oil with a vapour pressure of less than 0.13 Pa.

For the purposes of the present invention, the term “silicone oil” means an oil comprising at least one silicon atom, and in particular 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.

For the purposes of the invention, the term “volatile oil” means any oil that is capable of evaporating on contact with the skin in less than one hour, at room temperature and atmospheric pressure. The volatile oil is a volatile cosmetic compound, which is liquid at room temperature, especially having a nonzero vapour pressure, at room temperature and atmospheric pressure, in particular having a vapour pressure ranging from 0.13 Pa to 40 000 Pa (10^{-3} to 300 mmHg), in particular ranging from 1.3 Pa to 13 000 Pa (0.01 to 100 mmHg) and more particularly ranging from 1.3 Pa to 1300 Pa (0.01 to 10 mmHg).

**Volatile oils**

The volatile oils may be hydrocarbon-based oils or silicone oils.

Among the volatile hydrocarbon-based oils containing from 8 to 16 carbon atoms, mention may be made especially of branched C₈-C₁₆ alkanes, such as C₈-C₁₆ isoalkanes (also known as isoparaffins), isododecane, isodecane, isohexadecane and, for example, the oils sold under the trade names Isopar or Permethyl, branched C₈-C₁₆ esters, such as isohexyl neopentanoate, and mixtures thereof. Preferably, the volatile hydrocarbon-based oil is chosen from volatile hydrocarbon-based oils containing from 8 to 16 carbon atoms, and mixtures thereof, in particular from isododecane, isodecane and isohexadecane, and is especially isohexadecane.

Mention may also be made of volatile linear alkanes comprising from 8 to 16 carbon atoms, in particular from 10 to 15 carbon atoms and more particularly from 11 to 13 carbon atoms, for instance n-dodecane (C₁₂) and n-tetradecane (C₁₄) sold by Sasol under
the respective references Parafol 12-97 and Parafol 14-97, and also mixtures thereof, the undecane-tridecane mixture, mixtures of n-undecane (C_{11}) and of n-tridecane (C_{13}) obtained in Examples 1 and 2 of patent application WO 2008/155 059 from the company Cognis, and mixtures thereof.

Volatile silicone oils that may be mentioned include linear volatile silicone oils such as hexamethyldisiloxane, octamethyltrisiloxane, decamethyltetrasiloxane, tetradecamethylhexasiloxane, hexadecamethylheptasiloxane and dodecamethylnenasiloxane.

Volatile cyclic silicone oils that may be mentioned include hexamethylocyclotrisiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane and dodecamethylcyclohexasiloxane.

**Non-volatile oils**

The non-volatile oils may be chosen especially from non-volatile 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, synthetic ethers containing from 10 to 40 carbon atoms, such as dicapryl ether,

- synthetic esters, such as the oils of formula R_{1}COOR_{2}, in which R_{1} represents a linear or branched fatty acid residue comprising from 1 to 40 carbon atoms and R_{2} represents a hydrocarbon-based chain, which is especially branched, containing from 1 to 40 carbon atoms, on condition that R_{1} + R_{2} ≥ 10. The esters may be chosen especially from fatty acid alcohol esters, for instance cetostearyl octanoate, isopropyl alcohol esters such as isopropyl myristate or isopropyl palmitate, ethyl palmitate, 2-ethylhexyl palmitate, isopropyl stearate, octyl stearate, hydroxylated esters, such as isostearyl lactate or octyl hydroxystearate, alkyl or polyalkyl ricinoleates, hexyl laurate, neopentanoic acid esters, such as isodecyl neopentanoate or isotridecyl neopentanoate, and isononanoic acid esters, such as isononyl isononanoate or isotridecyl isononanoate,

- polyol esters and pentaerythritol esters, such as dipentaerythrityl tetrahydroxystearate/tetraisostearate,
- 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, linolenic acid, and mixtures thereof,

- non-phenyl silicone oils, for instance caprylyl methicone, and

- phenyl silicone oils, for instance phenyl trimethicones, phenyl dimethicones, phenyltrimethylsiloxydiphenylsiloxanes, diphenyl dimethicones, diphenylmethyldiphenyltrisiloxanes and 2-phenylethyl trimethylsiloxysilicates, dimethicones or phenyl trimethicone with a viscosity of less than or equal to 100 cSt, and trimethyl-pentaphenyl-trisiloxane, and mixtures thereof; and also mixtures of these various oils.

Preferably, a composition according to the invention comprises volatile and/or non-volatile silicone oils.

A composition according to the invention may comprise from 5% to 95% by weight, better still from 5% to 40% by weight and preferably from 7% to 35% by weight of oil(s) relative to the total weight of said composition.

As mentioned above, the gelled oily phase according to the invention may have a threshold stress of greater than 1.5 Pa and preferably greater than 10 Pa.

The gelled oily phase according to the invention may have a threshold stress of lower than 10 000 Pa preferably lower than 5 000 Pa.

This threshold stress value reflects a gel-type texture of this oily phase.

**Dyestuffs**

A composition according to the invention may also comprise at least one particulate or non-particulate, water-soluble or water-insoluble dyestuff, preferably in a proportion of at least 0.01% by weight relative to the total weight of the composition.

For obvious reasons, this amount is liable to vary significantly with regard to the intensity of the desired colour effect and of the colour intensity afforded by the dyestuffs under consideration, and its adjustment clearly falls within the competence of a person skilled in the art.
A composition according to the invention may comprise from 0.01% to 25% by weight, especially from 0.1% to 25% by weight, in particular from 1% to 20% by weight, and preferably from 2.5% to 15% by weight of dyestuffs relative to the total weight of said composition.

As stated above, the dyestuffs that are suitable for use in the invention may be water-soluble, but may also be liposoluble.

For the purposes of the invention, the term “water-soluble dyestuff” means any natural or synthetic, generally organic compound, which is soluble in an aqueous phase or water-miscible solvents and which is capable of imparting colour.

As water-soluble dyes that are suitable for use in the invention, mention may be made especially of synthetic or natural water-soluble dyes, for instance FDC Red 4, DC Red 6, DC Red 22, DC Red 28, DC Red 30, DC Red 33, DC Orange 4, DC Yellow 5, DC Yellow 6, DC Yellow 8, FDC Green 3, DC Green 5, FDC Blue 1, betanine (beetroot), carmine, copper chlorophylline, methylene blue, anthocyanins (enocianin, black carrot, hibiscus and elder), caramel and riboflavin.

The water-soluble dyes are, for example, beetroot juice and caramel.

For the purposes of the invention, the term “liposoluble dyestuff” means any natural or synthetic, generally organic compound, which is soluble in an oily phase or in solvents that are miscible with a fatty substance, and which is capable of imparting colour.

As liposoluble dyes that are suitable for use in the invention, mention may be made especially of synthetic or natural liposoluble dyes, for instance DC Red 17, DC Red 21, DC Red 27, DC Green 6, DC Yellow 11, DC Violet 2, DC Orange 5, Sudan red, carotenes (β-carotene, lycopene), xanthophylls (capsanthin, capsorubin, lutein), palm oil, Sudan brown, quinoline yellow, annatto and curcumin.

The colouring particulate materials may be present in a proportion of from 0.01% to 15% by weight relative to the total weight of the composition containing them.

They may especially be pigments, nacres and/or particles with metallic tints.

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 25% by weight, especially from 0.1% to 25% by weight, in particular from 1% to 25% by weight, and preferably from 2.5% to 15% by weight of pigments relative to the total weight of said composition.

Preferably, when the composition according to the invention is a makeup composition, it may comprise at least 2.5% and preferentially at least 10% 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 consisting 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 according to the invention may comprise from 0% to 15% 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 commercially available nacres that may be mentioned are the nacres Timica, Flamenco and Duochrome (on mica base) sold by the company Engelhard, the Timiron nacres sold by the company Merck, the Prestige nacres on mica base sold by the company Eckart and the Sunshine nacres on synthetic mica base sold by the company Sun Chemical.

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

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

For the purposes of the present invention, the term "*particles with a metallic tint*" means any compound whose nature, size, structure and surface finish allow it to reflect the incident light, especially in a non-iridescent manner.

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*" denotes compounds derived from metals, especially oxides, fluorides, chlorides and sulfides.

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

5 **Hydrophobic treatment of the dyestuffs**

The pulverulent dyestuffs as described previously may be totally or partially surface-treated, with a hydrophobic agent, to make them more compatible with the oily phase of the composition of the invention, especially so that they have good wettability with oils. Thus, these treated pigments are well dispersed in the oily phase.


The hydrophobic-treatment agent may be chosen from silicones such as methicones, dimethicones and perfluoroalkylsilanes; fatty acids, such as stearic acid; metal soaps, such as aluminium dimyristate, the aluminium salt of hydrogenated tallow glutamate; perfluoroalkyl phosphates, polyhexafluoropropylene oxides; perfluoropolyethers, amino acids; N-acylamino acids or salts thereof; lecithin, isopropyl triisostearyl titanate, isostearyl sebacate, and mixtures thereof.

The term “alkyl” mentioned in the compounds cited above especially denotes an alkyl group containing from 1 to 30 carbon atoms and preferably containing from 5 to 16 carbon atoms.

**ASSOCIATED FILLERS**

Advantageously, a composition according to the invention may comprise, in addition to one or more fillers with a soft-focus effect, one or more fillers conventionally used in care and/or makeup compositions.

These associated fillers are colourless or white solid particles of any form, which are in a form that is insoluble and dispersed 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.

In particular, such associated fillers may be present in a composition according to the invention in a content of between 0.5% and 10% by weight, especially between 0.5%
and 7% by weight and in particular between 0.5% and 5% by weight relative to the total weight of the composition.

According to one embodiment of the invention, a composition may also comprise at least solid particles such as pigments and/or associated fillers.

Advantageously, a composition according to the invention may comprise from 0.01% to 25% by weight, especially from 0.1% to 25% by weight, in particular from 1% to 20% by weight and preferably from 5% to 15% by weight of solid particles relative to the total weight of the composition.

**Dispersant**

Advantageously, a composition according to the invention may also comprise a dispersant.

Such a dispersant may be a surfactant, an oligomer, a polymer or a mixture of several thereof.

According to one particular embodiment, a dispersant in accordance with the invention is a surfactant.

According to a particular embodiment variant, a composition according to the invention comprises less than 1% by weight of surfactant, relative to the total weight of the composition, or is even free of surfactant.

**Active Agents**

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

Preferably, the moisturizer is glycerol.

The moisturizer(s) may be present in the 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 said composition.

As other active agents that may be used in the composition of the invention, examples that may be mentioned include vitamins and sunscreens, and mixtures thereof.

Preferably, a composition according to the invention comprises at least one active agent.
It is a matter of routine operations for a person skilled in the art to adjust the nature and the 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 composition of the invention may advantageously be in the form of a composition for caring for the skin of the body or the face, in particular the face.

According to another embodiment, a composition of the invention may advantageously be in the form of a makeup base composition.

According to another embodiment, a composition of the invention may advantageously be in the form of a foundation.

According to one embodiment, a composition of the invention may advantageously be in the form of a composition for making up the skin and especially the face. It may thus be an eyeshadow or a face powder.

According to another embodiment, a composition of the invention may advantageously be in the form of a lip product, especially a lipstick.

According to another embodiment, a composition of the invention may be in the form of a product for the eyelashes, in particular a mascara.

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 specified.

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 examples and figures presented below. Unless otherwise mentioned, the amounts indicated are expressed as mass percentages.

**Methodology for the Oscillating Dynamic Rheology Measurements**
These are harmonic-regime rheology measurements for measuring the elastic modulus.

The measurements are taken using a Haake RS600 rheometer on a product at rest, at 25°C with a plate-plate rotor Ø 60 mm and a 2 mm gap.

The harmonic-regime measurements make it possible to characterize the viscoelastic properties of the products. The technique consists in subjecting a material to a stress which varies sinusoidally over time and in measuring the response of the material to this stress. In a range in which the behaviour is linear viscoelastic behaviour (zone in which the strain is proportional to the stress), the stress ($\tau$) and the strain ($\gamma$) are two sinusoidal functions of time which are written in the following manner:

$$\tau(t) = \tau_0 \sin(\omega t)$$

$$\gamma(t) = \gamma_0 \sin(\omega t + \delta)$$

in which:

- $\tau_0$ represents the maximum amplitude of the stress (Pa);
- $\gamma_0$ represents the maximum amplitude of the strain (-);
- $\omega = 2\pi N$ represents the angular frequency (rad.s$^{-1}$) with $N$ representing the frequency (Hz); and
- $\delta$ represents the phase shift of the stress relative to the strain (rad).

Thus, the two functions have the same angular frequency, but they are shifted by an angle $\delta$. Depending on the phase shift $\delta$ between $\tau(t)$ and $\gamma(t)$, the behaviour of the system may be apprehended:

- if $\delta = 0$, the material is purely elastic;
- if $\delta = \pi/2$, the material is purely viscous (Newtonian fluid); and
- if $0 < \delta < \pi/2$, the material is viscoelastic.

In general, the stress and the strain are written in complex form:

$$\tau^*(t) = \tau_0 e^{i\omega t}$$

$$\gamma^*(t) = \gamma_0 e^{i(\omega t + \delta)}$$

A complex stiffness modulus, representing the overall resistance of the material to the strain, whether it is of elastic or viscous origin, is then defined by:

$$G^* = \frac{\tau^*}{\gamma^*} = G' + iG''$$

in which:
G’ is the storage modulus or elastic modulus, which characterizes the energy stored and totally restituted during a cycle, $G' = (\tau_0 / \gamma_0) \cos \delta$; and

G’’ is the loss modulus or viscous modulus, which characterizes the energy dissipated by internal friction during a cycle, $G'' = (\tau_0 / \gamma_0) \sin \delta$.

The parameter retained is the mean stiffness modulus $G^*$ recorded at the plateau measured at a frequency of 1 Hz.

**EXAMPLES**

**Examples 1 and 2**

The gel-gel compositions of Example 1 (according to the invention) and of (comparative) Example 2 were prepared and potential fluffing was measured.

1) Preparation of the gel-gel compositions

Gel-gel compositions are prepared as described below.

The components of phase A are weighed out in a beaker and stirred with a Rayneri blender, at room temperature.

After homogenization of the gel, the components of phase B, which have been weighed out, are gradually added at room temperature with vigorous stirring.

The gel-gel composition forms.

The mixture is left to homogenize while stirring with a Rayneri blender for about 5 minutes at room temperature, the walls of the beaker being scraped with a spatula.

The mixture is stirred vigorously with a Rayneri blender for about 5 minutes, at room temperature.

The formulation is prepared from the weight proportions described below.

The compositions of Examples 1 and 2 are identical except for the soft-focus filler of the gelled aqueous phase: vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7 glyceryl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glyceryl cocoate in Example 1 and dimethicone/vinyl dimethicone crosspolymer (and) butylene glycol in Example 2.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Compounds</th>
<th>Example 1 in accordance with the</th>
<th>Example 2 comparative (weight% / total)</th>
</tr>
</thead>
</table>

56
<table>
<thead>
<tr>
<th>Phase</th>
<th>Ingredient</th>
<th>Weight %</th>
<th>Total Weight of Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase A</td>
<td>Water</td>
<td>qs 100</td>
<td>qs 100</td>
</tr>
<tr>
<td></td>
<td>Phenoxyethanol</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7 glycercyl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glycercyl cocoate, sold under the name MW-SRP-100 by the company Miyoshi Kasei</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Dimethicone/Vinyl dimethicone crosspolymer (and) butylene glycol, sold under the name EP-9801 Hydrocosmetic Powder by the company Dow Corning</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Ammonium Polydimethyltauramide sold under the name Hostacerin AMPS® by the company Clariant</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Phase B</td>
<td>Dimethicone sold under the name KF-96L-2CS by the company Shin-Etsu</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Dimethicone sold under the name Dow Corning Toray SH200C FLUID 5CS by the company Dow Corning</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Vinyl dimethicone/methicone silsesquioxane crosspolymer sold under the reference KSP-100 by the company Shin-Etsu</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
2) Evaluation of the cosmetic properties

The fluffing potential of these tests was evaluated *in vitro*. 0.1 g of each formulation was deposited on a synthetic substrate imitating the surface properties of skin. The amount of product deposited was then spread out by finger over the entire surface of the substrate, and the film was then dried in the open air for 1 hour. After drying of the film, five to-and-fro cycles were applied with the same intensity on each of the samples so as potentially to bring about the appearance of fluffing.

The film formed with the composition of Example 2 breaks, producing fine particles, whereas the film formed by the composition of Example 1 remains intact.

Examples 3 and 4

The gel-gel compositions of Example 3 (according to the invention) and of Example 4 (comparative) were prepared and the stability of these compositions was studied.

1) Preparation of the gel-gel compositions

Gel-gel compositions are prepared as described for Examples 1 and 2 above. The formulation is prepared from the weight proportions described below.

The compositions of Examples 3 and 4 are identical, except for the hydrophilic gelling agent, to those of Examples 1 and 2.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Compounds</th>
<th>Example 3 in accordance with the invention (weight%/total weight of the composition)</th>
<th>Example 4 comparative (weight%/total weight of the composition)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Caprylyl glycol
sold under the name Minacare by the company Minasolve
<table>
<thead>
<tr>
<th>Phase</th>
<th>Ingredient</th>
<th>Amount</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Water</td>
<td>qs 100</td>
<td>qs 100</td>
</tr>
<tr>
<td></td>
<td>Phenoxethanol supplied by Clariant</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Vinyl dimethicone/methicone silsesquioxane crosspolymer treated with PEG-7 glyceryl cocoate, Polyquaternium-7 and methylsilanol tri-PEG-8 glyceryl cocoate, sold under the name MW-SRP-100 by the company Miyoshi Kasei</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Ammonium Polydimethyltauramid sold under the name Hostacerin AMPS® by the company Clariant</td>
<td>0.8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Hydroxyethyl acrylate/sodium acryloyldimethyl taurate copolymer sold under the name Sepinov EMT10 by the company SEPPIC</td>
<td>0</td>
<td>0.8</td>
</tr>
<tr>
<td>B</td>
<td>Dimethicone sold under the name KF-96L-2CS by the company Shin-Etsu</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Dimethicone sold under the name Dow Corning Toray SH200C FLUID 5CS by the company Dow Corning</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Vinyl dimethicone/methicone silsesquioxane crosspolymer sold under the reference KSP-100 by the company Shin-Etsu</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Caprylyl glycol sold under the name Minacare by the company Minasolve</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>
2) **Evaluation of the stability of the compositions**

The gelled aqueous phase of composition 3 in accordance with the invention (containing Hostacerin AMPS) is stable, in contrast with comparative composition 4 (containing Sepinov EMT10). Specifically, for comparative composition 4, release of water is observed between the formulation and the edge of the formulation, which is not observed with composition 3 according to the invention.

Further, when applied on the skin, composition 3 in accordance with the invention is in line with users’ expectations regarding mattifying, cosmetic properties, and it does not lead to the formation of fluffing.
CLAIMS

1. Cosmetic composition, for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising:

- at least one aqueous phase gelled with at least one hydrophilic gelling agent, said hydrophilic gelling agent being a homopolymer of a monomer bearing a sulfonic group; and

- at least one oily phase gelled with at least one lipophilic gelling agent; said phases forming therein a macroscopically homogeneous mixture;

said composition also comprising at least two soft-focus fillers, these two soft-focus fillers being a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.

2. Composition according to Claim 1, in which the homopolymer of a monomer bearing a sulfonic group is a crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer.

3. Composition according to Claim 1 or 2, in which the crosslinked elastomeric organopolysiloxane powder coated with hydrophilic-treated silicone resin is combined with at least one cationic polymer, preferably a quaternary ammonium polymer and optionally with at least one polyoxyethylated C₈-C₁₈ glycol ester.

4. Composition according to Claim 3, in which the crosslinked elastomeric organopolysiloxane powder coated with hydrophilic-treated silicone resin is combined with at least one quaternary ammonium polymer, preferentially at least Polyquaternium-7.

5. Composition according to any one of the preceding claims, comprising from 0.2% to 40% by weight, especially from 0.5% to 37% by weight, preferably from 2% to 35% by weight and advantageously from 10% to 30% by weight of filler(s) with a soft-focus effect relative to the total weight of said composition.

6. Composition according to any one of the preceding claims, in which said lipophilic gelling agent is chosen from particulate gelling agents, organopolysiloxane elastomers, semi-crystalline polymers, dextrin esters and polymers containing hydrogen bonding and mixtures thereof.
7. Composition according to any one of the preceding claims, comprising as lipophilic gelling agent at least one organopolysiloxane elastomer preferably chosen from Dimethicone Crosspolymer, Dimethicone (and) Dimethicone Crosspolymer, Vinyl Dimethicone Crosspolymer, Dimethicone/Vinyl Dimethicone Crosspolymer, Dimethicone Crosspolymer-3, and in particular Dimethicone Crosspolymer and Dimethicone (and) Dimethicone Crosspolymer.

8. Composition according to any one of the preceding claims, comprising, as lipophilic gelling agent, at least one gel of a silicone elastomer dispersed in a silicone oil and/or a crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin.

9. Composition according to any one of the preceding claims, in which the crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin is present in a content ranging from 5% to 15% by weight, preferably from 7% to 12% by weight relative to the total weight of the composition.

10. Composition according to any one of the preceding claims, containing as hydrophilic gelling agent/lipophilic gelling agent system a system of crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer/crosslinked elastomeric organopolysiloxane powder coated with silsesquioxane resin.

11. Composition according to any one of the preceding claims, containing the gelled aqueous and oily phases in an aqueous phase/oily phase weight ratio varying from 95/5 to 5/95 and preferably varying from 30/70 to 80/20.

12. Composition according to any one of the preceding claims, in the form of a composition for caring for the skin of the body or the face, in particular the face.

13. Composition according to any one of the preceding claims, also comprising at least solid particles such as pigments and/or associated fillers.

14. Composition according to any one of the preceding claims, also comprising volatile and/or non-volatile silicone oils.

15. Composition according to any one of the preceding claims, also comprising at least one moisturizer, preferably glycerol.

16. Process for preparing a cosmetic composition for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising at least one step of mixing:
- an aqueous phase gelled with at least one homopolymer of a monomer bearing a sulfonic group, preferably a crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer; and
- at least one oily phase gelled with at least one lipophilic gelling agent;

under conditions suitable for obtaining a macroscopically homogeneous mixture;

said composition also comprising at least two soft-focus fillers, namely a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.

17. Process according to Claim 16, comprising a step of mixing at least two, preferably at least three gelled phases.

18. Process according to either of Claims 16 and 17, in which the phases are mixed at room temperature.

19. Cosmetic process for making up and/or caring for keratin materials, in particular the skin and/or the lips, comprising at least one step of applying to said keratin material a composition as defined according to any one of Claims 1 to 15.

20. Cosmetic process for making up and/or caring for a keratin material, in particular the skin and/or the lips, comprising at least one step of applying to said material of a macroscopically homogeneous composition obtained by extemporaneous mixing, before application or at the time of application to said keratin material, of at least one aqueous phase gelled with at least one homopolymer of a monomer bearing a sulfonic group, preferably at least one crosslinked ammonium acrylamido-2-methylpropanesulfonate homopolymer, and at least one oily phase gelled with at least one lipophilic gelling agent; and

said composition also comprising at least two soft-focus fillers, namely a powder of crosslinked elastomeric organopolysiloxane coated with silsesquioxane resin and a powder of crosslinked elastomeric organopolysiloxane coated with hydrophilic-treated silicone resin.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61Q A61K

Documented searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Relevant to claim No.</th>
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<td>WO 2013/182238 A1 (OREAL [FR]; ARDITTY STEPHANE [FR]; JACQUES VERONIQUE [FR]) 12 December 2013 (2013-12-12) examples</td>
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<td>DE 101 57 489 A1 (BEIERSDORF AG [DE]) 12 June 2003 (2003-06-12) examples 3,4, -----</td>
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[X] Further documents are listed in the continuation of Box C.  
[X] See patent family annex.

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Date of the actual completion of the international search
5 January 2016

Date of mailing of the international search report
19/01/2016

Name and mailing address of the ISA/
European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040,  
Fax: (+31-70) 340-3016

Authorized officer
Villa Riva, A

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