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(54) Title: COSMETIC COMPOSITION IN THE POWDER FORM

(57) Abstract: A subject-matter of the present invention is an anhydrous cosmetic composition in the powder form comprising at least one pulveru lent phase and a fatty binder, the said pulverulent phase comprising at least one first spherical solid particle having a refractive index of less than or equal to 1.6, boron nitride particles, and 10 to 90% by weight, with respect to the total weight of the composition, of at least one lamellar particle. Another subject-matter of the present invention is a method for making up the skin which comprises the application of the said composition and its use in order to obtain a natural makeup veil, the coloured effect of which is not softened to any great extent with respect to the coloured e ffect of the colouring materials alone.

# Cosmetic composition in the powder form

A subject-matter of the present invention is a cosmetic composition for making up the skin in the form of a powder comprising a high content of pigments. Another subject-matter of the invention is a process for making up the skin comprising the application to the skin of the said composition.

The makeup composition according to the invention is in particular a makeup composition for the skin in the powder form, such as a face and body powder, an eyeshadow, a blusher or a concealer. More specifically, the invention relates to a powder for the face.

Makeup products, such as loose powders, blushers or eyeshadows, generally comprise a pulverulent phase comprising in particular fillers and pigments. In point of fact, some fillers, such as talc, due to their opaqueness to light, have a tendency to reduce the saturation of the colour of the pigments present in the composition. The result of this is that the makeup obtained exhibits an apparent colour which is less vivid than the colour of the colouring materials alone. The softening of the colour of the makeup is in particular highly noticeable for eyeshadows or blushers in the form of powders (loose powders or compact powders) having a high content of fillers, for example of at least 50% by weight.

The use is also known, as colouring material, of reflective particles, such as metal-coated glass particles, as described in Application EP-A-1 082 952, or goniochromatic pigments comprising a multilayer interference structure or comprising a liquid crystal structure, as described in Application EP-A-953 330, or also pearlescent agents for their iridescent effects. These colouring materials produce novel and intense coloured optical effects which are different from those obtained with conventional pigments, such as iron oxides or titanium dioxide. In point of fact, if these

novel colouring materials are formulated with opaque fillers, such as talc, in particular when they are present in a large amount, the opaque fillers soften the novel coloured effect of the product and the makeup obtained then exhibits a reduced coloured effect. Thus, the intensity of the optical effects of the colouring materials is masked by the opaqueness of the fillers. It is then necessary to introduce a large amount of colouring materials in order for the coloured effects (optical effects) desired to be highly visible.

The aim of the present invention is thus to have available a makeup composition in the powder form comprising colouring materials and exhibiting a coloured effect which is not significantly softened in comparison with the coloured effect of the colouring materials alone.

The inventors have discovered that such a composition is obtained by using specific solid particles in combination with lamellar fillers.

The compositions obtained additionally exhibit good softness properties when applied to the skin.

According to a first aspect, a subject-matter of the invention is an anhydrous cosmetic composition in the powder form comprising at least one pulverulent phase and a fatty binder, the said pulverulent phase comprising:

i) at least one first spherical solid particle having a refractive index of less than or equal to 1.6,
ii) boron nitride particles, and
iii) 10 to 90% by weight, with respect to the total weight of the composition, of at least one lamellar particle.

Another subject-matter of the invention, according to a second aspect, is a method for making up the skin of the face and/or of the body, comprising the application

to the said skin of a composition as defined above.

A further subject-matter of the invention is the use of a composition as described above in order to obtain a natural makeup veil, the coloured effect of which is not softened to any great extent with respect to the coloured effect of the colouring materials alone.

The composition according to the invention is provided in the powder form, which powder can in particular be a loose powder or a compact powder (which can be disintegrated under dry conditions or with water).

***Pulverulent phase***

The composition according to the invention comprises a pulverulent phase comprising at least one first spherical solid particle, boron nitride particles and at least one additional lamellar particle.

First spherical solid particles

The composition according to the invention comprises first spherical solid particles having a refractive index of less than or equal to 1.6 (in particular ranging from 1.3 to 1.6). In particular, the said first spherical solid particles are nondeformable particles.

The term “nondeformable particles” is understood to mean, within the meaning of the present invention, solid particles with sufficient hardness not to lose their shape when the composition is withdrawn using the finger or a sponge or directly by rubbing over the skin. In particular, the term “nondeformable” should be understood to mean that the particles are rigid.

The term solid particles means particles which remain in the solid state in the composition.

Advantageously, the first spherical solid particles have a refractive index of less than or equal to 1.55, in particular ranging from 1.3 to 1.55.

The refractive index of a solid particle is determined by mixing the said solid particle, in a content ranging from approximately 1% to 10% by weight of the total weight of the mixture, with a liquid medium comprising an oil or a solvent or a mixture of oils or of solvents chosen such that the particles + liquid medium mixture is transparent, that is to say that this mixture, when it is subjected to radiation in the wavelength range 400-700 nm using a spectrophotometer, exhibits a direct transmission equal to 100%.

The refractive index of the particle is then equal to the refractive index of the medium which makes it possible to obtain a direct transmission equal to 100%.

If the liquid medium comprises just one oil or just one solvent, the refractive index of the solid particle is equal to the refractive index of the oil or of the solvent.

If the liquid medium comprises a mixture of oils or of solvents, the refractive index is calculated as a function of the proportion by volume of each oil or solvent in the liquid medium weighted by their refractive index. Use may be made, for example, of a mixture of ethanol (which has a refractive index equal to 1.36) and of phenylic alcohol (which has a refractive index equal to 1.529).

The refractive index is determined at ambient temperature (25°C).

The first spherical solid particles can be glass particles. Preferably, the particles are spherical solid glass particles (microbeads).

Such glass particles (microbeads) are sold in particular under the names "P2015SL", "P2015SL", "P2043SL", "P2415BT", "P2453BT" and "P2453BTA" by Prizmalite, under the "Silibeads®" name by Sigmund Lindner, under the "Duraspheres" and "Identispheres" names by MoSci Corporation and under the "Luxsil®" name by Potters Industries.

Advantageously, the first particles have a number-average size ranging from 1 μm to 150 μm, preferably from 3 μm to 100 μm and more preferably from 3 μm to 60 μm.

In the composition according to the invention, the said first spherical solid particles can be present in a content ranging from 0.1% to 40% by weight, with respect to the total weight of the composition, preferably ranging from 0.1% to 20% by weight and preferentially ranging from 1% to 10% by weight.

Boron nitride particles

The composition according to the invention also comprises boron nitride particles.

Advantageously, the boron nitride particles have a number-average size ranging from 1 μm to 20 μm, preferably from 3 μm to 15 μm and more preferably from 3 μm to 10 μm.

According to a preferred embodiment, the boron nitride particles can have a refractive index of greater than or equal to 1.6, in particular ranging from 1.6 to 2.0.

Preferably, the boron nitride particles are lamellar.

Such lamellar boron nitride particles are sold in particular under the names "Ceram Blanche 1" and "Ceram

Blanche" by SPCI, "PUHP 3008" and "PUH 1030L" by Saint Gobain or "Soft Touch Boron Nitride Powder CC6058" by General Electrics Advanced Materials.

In the composition according to the invention, the said boron nitride particles can be present in a content ranging from 0.1% to 40% by weight, with respect to the total weight of the composition, preferably from 1% to 20% by weight and more preferably from 5% to 15% by weight.

According to a specific form of the invention, the first spherical solid particles and the boron nitride particles are present in the composition in a content such that the ratio by weight of the first spherical solid particles to the boron nitride particles is between 1 and 15 and preferably 1 and 2.

According to a preferred form of the invention, the anhydrous cosmetic composition according to the invention comprises at least one pulverulent phase and a fatty binder, the said pulverulent phase comprising:

i) at least one first particle in the form of glass beads,
ii) boron nitride particles,
iii) 10 to 90% by weight, with respect to the total weight of the composition, of at least one lamellar particle.

Additional lamellar particles

The composition according to the invention comprises at least one additional lamellar particle other than the boron nitride particles described above.

The term lamellar particle is understood to mean, within the meaning of the present application, particles existing in the form of optionally layered sheets.

These sheets are characterized by a thickness which is lower than the greater of their dimensions. Preferably, the ratio of the greater dimension to the thickness is between 2 and 100.

The lamellar particles present in the composition according to the invention can be chosen from lamellar pearlescent agents, lamellar fillers and/or lamellar reflective particles.

The term “pearlescent agents” should be understood as meaning iridescent particles, in particular produced by certain shellfish in their shells or else synthesized.

The lamellar pearlescent agents can be chosen from white pearlescent agents, such as mica covered with titanium oxide or with bismuth oxychloride, coloured pearlescent agents, such as titanium oxide-coated mica covered with iron oxides, titanium oxide-coated mica covered with in particular ferric blue, cochineal or chromium oxide, or titanium oxide-coated mica covered with an organic pigment of the abovementioned type, and pearlescent agents formed of bismuth oxychloride or based on bismuth oxychloride.

According to a preferred form of the invention, the lamellar pearlescent agent is chosen from bismuth oxychloride, in particular sold under the name Biron LF 2000 by Merck, mica covered with titanium oxide, with iron oxide or with cochineal, and their mixture.

The lamellar pearlescent agents can be present in the composition according to the invention in a content ranging from 0.1 to 50% by weight, with respect to the total weight of the composition, preferably ranging from 1 to 40% by weight.

The lamellar fillers can be chosen from:

- talc, which is a magnesium silicate hydrate, in particular the talcs sold under the names "Talc Luzenac 00" by Luzenac and "Talc P3" by Nippon Talc;
- kaolin, which is a hydrated aluminosilicate which is provided in the form of particles of anisotropic shape having dimensions generally of less than 30 μm. Use may be made, as kaolin, of that sold under the name "Kaolin Supreme 1" by English China Clays;
- mica or aluminosilicate chosen from muscovite, phlogopite, tiotite, sericite, lepidolite, paragonite, margarite, roscoelite, artificial or synthetic mica having a fluorine atom substituting for the hydroxyl group of natural mica, and the heated or calcined products of these micas. Micas are generally provided in the form of flakes having dimensions of 2 to 200 μm, preferably 5 to 70 μm, and a thickness of 0.1 to 5 μm, preferably of 0.2-3 μm. Use may be made, as mica, for example, of those sold under the names "Mica SFG70" by Aspanger or "Mica Concord 1000" by Sciama;
- lamellar silica, such as in particular that sold under the names "SG Flake 3 M" by Maprecos or "Chemicelen" by Sumitomo;
- and their mixtures.

According to a preferred embodiment, the lamellar fillers are chosen from mica, sericite and their mixture.

According to a specific embodiment, the mica and/or the sericite can be present in the composition according to the invention in a content ranging from 5 to 90% by weight, with respect to the total weight of the composition, preferably from 10 to 85% by weight and more preferably from 20 to 80% by weight.

The lamellar fillers other than the boron nitride particles according to the invention can be present in

the composition according to the invention in a content ranging from 5 to 90% by weight, with respect to the total weight of the composition, preferably from 10 to 85% by weight and more preferably from 20 to 80% by weight.

The lamellar particles can be chosen from lamellar reflective particles.

The term "reflective particles" denotes particles having a size, structure, in particular thickness of the layer or layers constituting it and their physical and chemical natures, and surface state which allow them to reflect incident light. This reflection can, if appropriate, have an intensity sufficient to create, at the surface of the composition or of the mixture, when the latter is applied to the substrate to be made up, highlight points visible to the naked eye, that is to say more luminous points which contrast with their surroundings by an effect of sheen.

The lamellar reflective particles can exhibit a multilayer or nonmultilayer structure and, in the case of a multilayer structure, for example at least one layer of uniform thickness, in particular of a reflective material.

When the reflective particles exhibit a multilayer structure, the particles can, for example, comprise a natural or synthetic substrate, in particular a synthetic substrate, at lest partially coated with at least one layer of a reflective material, in particular of at least one metal or metallic material. The substrate can be composed of one or more materials which can be organic and/or inorganic.

More particularly, the substrate can be chosen from glasses, ceramics, graphite, metal oxides, aluminas, silicas, silicates, in particular aluminosilicates and borosilicates, synthetic mica and their mixtures, this

list not being limiting.

The reflective material can comprise a layer of metal or of a metallic material.

Reflective particles are described in particular in the documents JP-A-09188830, JP-A-10158450, JP-A-10158541, JP-A-07258460 and JP-A-05017710.

Mention may also be made, still by way of example of reflective particles comprising an inorganic substrate coated with a layer of metal, of the particles comprising a silver-coated borosilicate substrate.

Particles comprising a glass substrate coated with silver, in the form of platelets, are sold under the name "Microglass Metashine REFSX 2025 PS" by Toyal. Particles comprising a glass substrate coated with nickel/chromium/molybdenum alloy are sold under the name Crystal Star GF 550 or GF 2525 by this same company.

The lamellar reflective particles can also be chosen from particles comprising a synthetic substrate coated at least partially with at least one layer of at least one metallic material, in particular a metal oxide, chosen, for example, from oxides of titanium, in particular $TiO_2$, of iron, in particular $Fe_2O_3$, of tin or of chromium, barium sulphate and the following materials: $MgF_2$, $CrF_3$, ZnS, ZnSe, $SiO_2$, $Al_2O_3$, MgO, $Y_2O_3$, $SeO_3$, SiO, $HfO_2$, $ZrO_2$, $CeO_2$, $Nb_2O_5$, $Ta_2O_5$, $MoS_2$, and their mixtures or alloys.

Mention may be made, by way of example of such particles, for example, of the particles comprising a synthetic mica substrate coated with titanium dioxide or the glass particles coated either with brown iron oxide, with titanium oxide, with tin oxide or with one of their mixtures, such as those sold under the Reflecks® trademark by Engelhard.

The reflective particle(s) can be present in the composition according to the invention in a content ranging from 5 to 70% by weight, with respect to the total weight of the first composition, in particular from 10% to 50% by weight and more preferably from 20 to 40% by weight.

The lamellar particles other than the boron nitride particles can be present in the composition according to the invention in a content ranging from 10 to 90% by weight, with respect to the total weight of the composition, and better still from 50 to 85% by weight.

The pigments

In addition to the first spherical solid particles, the boron nitride particles and the additional lamellar particles mentioned above, the composition according to the invention can comprise pigments.

The term pigments should be understood to mean particles of any shape, white or coloured, inorganic or organic, which are insoluble in the physiological medium and which are intended to colour the composition.

The pigments can be white and/or coloured and inorganic and/or organic.

According to a specific embodiment, the composition according to the invention can comprise at least one pigment chosen from inorganic pigments.

These inorganic pigments can in particular be chosen from metal oxide pigments.

Mention may be made, among inorganic pigments, of titanium dioxide, optionally surface treated, zirconium or cerium oxides, and also zinc, iron (black, yellow or

red) or chromium oxides, manganese violet, ultramarine blue, chromium hydrate and ferric blue, and metal powders, such as aluminium powder or copper powder.

According to a preferred embodiment, the inorganic pigments, in particular metal oxide pigments, present in the composition according to the invention are chosen from titanium dioxide, zinc oxide and/or iron oxide.

According to a specific embodiment, the pulverulent phase of the composition according to the invention can comprise at least two different pigments.

According to an embodiment which is also preferred, the pulverulent phase of the composition according to the invention can comprise at least one first pigment chosen from iron oxides and at least one second titanium dioxide pigment.

In addition to inorganic pigments, the pulverulent phase of the composition according to the invention can comprise organic pigments. Mention may be made, among organic pigments, of carbon black, pigments of D & C type and lakes based on cochineal carmine, barium, strontium, calcium or aluminium.

The pulverulent phase can also comprise goniochromatic pigments. These pigments exhibit a relatively large change in colour with the angle of observation.

The goniochromatic pigment can be chosen, for example, from pigments comprising a multilayer interference structure and liquid crystal pigments.

In the case of a multilayer structure, the latter can comprise, for example, at least two layers, each layer, independently or not of the other layer(s), being produced, for example, from at least one material chosen from the group consisting of the following materials:

$MgF_2$, $CeF_3$, ZnS, ZnSe, Si, $SiO_2$, Ge, Te, $Fe_2O_3$, Pt, Va, $Al_2O_3$, MgO, $Y_2O_3$, $S_2O_3$, SiO, $HfO_2$, $ZrO_2$, $CeO_2$, $Nb_2O_5$, $Ta_2O_5$, $TiO_2$, Ag, Al, Au, Cu, Rb, Ti, Ta, W, Zn, $MoS_2$, cryolite, alloys, polymers and their combinations.

The goniochromatic agents comprising multilayer structures are in particular those described in the following documents: US-A-3 438 796, EP-A-227 423, US-A-5 135 812, EP-A-170 439, EP-A-341 002, US-A-4 930 866, US-A-5 641 719, EP-A-472 371, EP-A-395 410, EP-A-753 545, EP-A-768 343, EP-A-571 836, EP-A-708 154, EP-A-579 091, US-A-5 411 586, US-A-5 364 467, WO-A-97/39066, DE-A-4 225 031, WO 9517479 (BASF) and DE-A-196 14 637. They are provided in the form of flakes with a metallic colour.

The multilayer structures which can be used in the invention are, for example, the following structures: $Al/SiO_2/Al/SiO_2/Al$; $Cr/MgF_2/Al/MgF_2/Al$; $MoS_2/SiO_2/Al/SiO_2/MoS_2$; $Fe_2O_3/SiO_2/Al/SiO_2/Fe_2O_3$; $Fe_2O_3/SiO_2/Fe_2O_3/SiO_2/Fe_2O_3$; $MoS_2/SiO_2/$mica-oxide$/SiO_2/MoS_2$; $Fe_2O_3/SiO_2/$mica-oxide$/SiO_2/Fe_2O_3$. Different colours are obtained depending on the thicknesses of the different layers. Thus, with the structure $Fe_2O_3/SiO_2/Al/SiO_2/Fe_2O_3$, the colour changes from golden-green to grey-red for $SiO_2$ layers with a thickness of 320 to 350 nm; from red to golden for $SiO_2$ layers with a thickness of 380 to 400 nm; from purple to green for $SiO_2$ layers with a thickness of 410 to 420 nm; and from copper to red for $SiO_2$ layers with a thickness of 430 to 440 nm.

Consequently, the multilayer structure can be essentially inorganic or organic. Different colours are obtained depending on the thickness of each of the different layers.

The goniochromatic pigments comprising a multilayer

interference structure according to the invention are in particular those described in the following documents: US-A-3 438 796, EP-A-227 423, US-A-5 135 812, EP-A-170 439, EP-A-341 002, US-A-4 930 866, US-A-5 641 719, EP-A-472 371, EP-A-395 410, EP-A-753 545, EP-A-768 343, EP-A-571 836, EP-A-708 154, EP-A-579 091, US-A-5 411 586, US-A-5 364 467, WO-A-97/39066, DE-A-4 225 031, WO 9517479 (BASF) and DE-A-196 14 637, and their combinations. They are provided in the form of flakes with a metallic colour.

The goniochromatic pigment comprising a multilayer interference structure can be chosen from the group consisting of the following commercial goniochromatic pigments: Infinite Colors from Shiseido, Sicopearl Fantastico from BASF, Colorstream, Xirallic and Xirona from Merck, Colorglitter from Flex, and their mixtures.

Liquid crystal pigments are described in particular in Application EP-A-1 046 692.

Use may in particular be made, as liquid crystal particles, of those known under the CTFA name Polyacrylate-4 and sold under the names "Helicone® HC Sapphire", "Helicone® HC Scarabeus", "Helicone® HC Jade", "Helicone® HC Maple", "Helicone® HC XL Sapphire", "Helicone® HC XL Scarabeus", "Helicone® HC XL Jade" and "Helicone® HC XL Maple" by Wacker.

The pigments can be present in the composition according to the invention in a content ranging from 1 to 30% by weight, with respect to the total weight of the composition, preferably from 5 to 20% by weight and more preferably from 5 to 15% by weight.

According to a preferred embodiment, the lamellar particles and the pigments are present in the composition in a content such that the ratio by weight

of the lamellar particles to the pigments ranges from 0.1 to 20, preferably from 5 to 15.

Additional particles

In addition to the lamellar particles described above, the composition according to the invention can comprise at least one additional nonlamellar particle of any shape, for example spherical or oblong.

Mention may be made of spherical silica, polyamide (Nylon®) powders, poly-β-alanine powders, polyethylene powders, polyurethane powders, such as the powder formed of hexamethylene diisocyanate and trimethylol hexyllactone copolymer sold under the name "Plastic Powder D-400" by Toshiki, the powders formed of tetrafluoroethylene polymers (Teflon®), lauroyllysine, starch, boron nitride, polymeric hollow microspheres, such as those of polyvinylidene chloride/acrylonitrile, for example Expancel® (Nobel Industrie), or of acrylic acid copolymers, silicone resin powders, in particular silsesquioxane powders (silicone resin powders described in particular in Patent EP 293 795; for example Tospearls® from Toshiba), polyorganosiloxane elastomer particles, polymethyl methacrylate particles, precipitated calcium carbonate, magnesium carbonate, basic magnesium carbonate, hydroxyapatite, hollow silica microspheres, glass or ceramic microcapsules, metal soaps derived from organic carboxylic acids having from 8 to 22 carbon atoms, preferably from 12 to 18 carbon atoms, for example zinc stearate, magnesium stearate, lithium stearate, zinc laurate or magnesium myristate; barium sulphate, and their mixtures.

***Fatty binder***

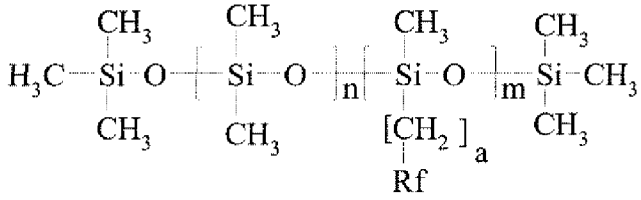
The composition according to the invention comprises at least one fatty binder.

The term fatty binder is understood to mean, within the meaning of the present application, a fatty phase which generally comprises at least one oil. This type of fatty phase is used in particular as dispersing medium for the pulverulent phase.

Advantageously, the fatty binder can comprise at least one oil.

The oil can be chosen from the oils conventionally used as binder in loose or compact powders. These oils can in particular be chosen from:

- mink oil, turtle oil, soybean oil, grape seed oil, sesame oil, corn oil, rapeseed oil, sunflower oil, cottonseed oil, avocado oil, olive oil, castor oil, jojoba oil or peanut oil;
- hydrocarbon oils, such as liquid paraffins, squalane or liquid petrolatum;
- fatty esters, such as isopropyl myristate, isopropyl palmitate, butyl stearate, isodecyl stearate, isocetyl stearate, hexyl laurate, isononyl isononanoate, 2-ethylhexyl palmitate, 2-hexyldecyl laurate, 2-octyldecyl palmitate, 2-octyldodecyl myristate, 2-octyldodecyl lactate, di(2-ethylhexyl) succinate, diisostearyl malate, glyceryl triisostearate or diglyceryl triisostearate;
- silicone oils, such as polymethylsiloxanes, polymethylphenylsiloxanes, polysiloxanes modified by fatty acids, fatty alcohols or polyoxyalkylenes, fluorosilicones or perfluorinated oils;
- higher fatty acids, such as myristic acid, palmitic acid, stearic acid, behenic acid, oleic acid, linoleic acid, linolenic acid or isostearic acid;
- higher fatty alcohols, such as ketanol, stearyl alcohol or oleyl alcohol;
- poly(methylfluoroalkyl)(dimethyl)siloxanes of formula (I):



(I)

in which:

- n represents an integer varying from 5 to 90, in particular from 30 to 80 and especially from 50 to 80,
- m represents an integer varying from 1 to 150, in particular from 1 to 80 and especially from 1 to 40,
- a represents an integer varying from 0 to 5, and
- Rf denotes a perfluoroalkyl radical comprising from 1 to 8 carbon atoms;

and

- their mixtures.

According to a preferred embodiment, the oil is chosen from fatty esters, such as isopropyl myristate, isopropyl palmitate, butyl stearate, isodecyl stearate, isocetyl stearate, hexyl laurate, isononyl isononanoate, 2-ethylhexyl palmitate, 2-hexyldecyl laurate, 2-octyldecyl palmitate, 2-octyldodecyl myristate, 2-octyldodecyl lactate, di(2-ethylhexyl) succinate, diisostearyl malate, glyceryl triisostearate or diglyceryl triisostearate.

According to a more preferred form, the oil is isononyl isononanoate.

The oil of the binder can represent from 10 to 100% by weight, with respect to the total weight of the binder.

The binder can be present in the composition according to the invention in a content ranging from 0.5 to 15% by weight, with respect to the total weight of the composition, in particular from 1 to 10% by weight and

more preferably from 1.5 to 5% by weight.

***Waxes and pasty fatty substances***

The composition according to the invention can also comprise a wax and/or a pasty fatty substance.

The term "wax" is understood to mean, within the meaning of the present invention, a lipophilic fatty compound which is solid at ambient temperature (25°C) and atmospheric pressure (760 mmHg, i.e. $10^5$ Pa), which exhibits a reversible solid/liquid change in state and which has in particular a melting point of greater than or equal to 30°C, especially of greater than or equal to 55°C and which can range up to 250°C, in particular up to 230°C and especially up to 120°C.

On bringing the wax to its melting point, it is possible to render it miscible with the oils and to form a microscopically homogeneous mixture but, on reestablishing the temperature of the mixture at ambient temperature, the wax recrystallizes from the oils of the mixture.

The melting point values correspond, according to the invention, to the melting peak measured using a differential scanning calorimeter (DSC), for example the calorimeter sold under the name DSC 30 by Metler, with a rise in temperature of 5 or 10°C per minute.

The waxes, within the meaning of the invention, can be those generally used in the cosmetic or dermatological fields. They can in particular be hydrocarbon, silicone and/or fluorinated waxes optionally comprising ester or hydroxyl functional groups. They can also be of natural or synthetic origin.

Mention may in particular be made, without implied limitation, of the following waxes:

- beeswax, lanolin wax and Chinese insect waxes; rice wax, carnauba wax, candelilla wax, ouricury wax, cork fibre wax, sugarcane wax, Japan wax and sumac wax; montan wax, microcrystalline waxes, paraffin waxes, ozokerites, ceresin wax, lignite wax, polyethylene waxes, the waxes obtained by the Fischer-Tropsch synthesis, and fatty acid esters and glycerides which are solid at 40°C and in particular at more than 55°C,
- waxes obtained by catalytic hydrogenation of animal or vegetable oils having linear or branched $C_8$-$C_{32}$ fatty chains, in particular hydrogenated jojoba oil, hydrogenated sunflower oil, hydrogenated castor oil, hydrogenated coconut oil and hydrogenated lanolin oil,
- silicone waxes or fluorinated waxes, and
- their mixtures.

According to a specific alternative form of the invention, the solid fatty phase can comprise at least one wax chosen from carnauba waxes, paraffin waxes and their mixtures.

According to a preferred embodiment, the wax present in the composition according to the invention can be completely or partially in the powder form, in particular the micronized form, in order to facilitate the use thereof in the preparation of the cosmetic composition.

Mention may in particular be made, among the waxes which can be used in the powder form, of the carnauba wax microbeads sold under the name "Microcare 350®" by Micro Powders and the paraffin wax microbeads sold under the name "Microease 114S®" by Micro Powders. Such additional micronized waxes make it possible in particular to improve the properties when the composition is applied to the skin.

The waxes and/or pasty fatty substances can be present

in the composition in a content ranging from 0.1 to 8% by weight, with respect to the total weight of the composition, preferably from 0.5 to 5% by weight.

***Additives***

The composition according to the invention can comprise at lest one other conventional cosmetic ingredient which can be chosen in particular from lipophilic gelling and/or thickening agents, antioxidants, fragrances, preservatives, neutralizing agents, sunscreens, vitamins, moisturizing agents, self-tanning compounds, antiwrinkle active agents, emollients, hydrophilic or lipophilic active principles, agents for combating pollution or free radicals, sequestering agents, film-forming agents, nonelastomeric surfactants, dermo-decontracting active agents, soothing agents, agents which stimulate the synthesis of dermal or epidermal macromolecules and/or which prevent their decomposition, antiglycation agents, agents which combat irritation, desquamating agents, depigmenting, antipigmenting or propigmenting agents, NO-synthase inhibitors, agents which stimulate the proliferation of fibroblasts or keratinocytes and/or the differentiation of keratinocytes, agents which act on the microcirculation, agents which act on the energy metabolism of the cells, healing agents, and their mixtures.

According to a preferred embodiment, the composition according to the invention can be a cosmetic composition in the powder form comprising:

i) 1 to 20% of spherical solid particles having a refractive index of less than or equal to 1.6,

ii) 1 to 20% of boron nitride particles,

iii) 1 to 30% by weight, with respect to the total weight of the composition, of at least one pigment chosen from iron oxides, titanium oxides and their mixture,

iv) 20 to 85% by weight, with respect to the total

weight of the composition, of at least one lamellar filler,

v) 2 to 7% by weight, with respect to the total weight of the composition, of at least one fatty binder.

According to a preferred embodiment, the composition according to the invention can be an anhydrous composition. The term "anhydrous composition" is understood to mean a composition comprising less than 2% by weight of water, indeed even less than 0.5% by weight of water, and which in particular is devoid of water, the water not being added during the preparation of the composition but corresponding to the residual water contributed by the mixed ingredients.

The invention is illustrated in more detail in the examples below.

**Examples 1 to 3**

A loose finishing powder (Example 1), a blusher (Example 2) and a complexion-illuminating powder (Example 3) were prepared which have the following compositions:

| | | Ex. 1 (% by weight) | Ex. 2 (% by weight) | Ex. 3 (% by weight) |
|---|---|---|---|---|
| Phase A1 | Yellow iron oxide | 1.2 | 2.61 | 3.33 |
| | Titanium dioxide | 1.00 | 5.00 | 5.00 |
| | Ultramarine blue | - | 1.95 | 0.20 |
| | Helindone pink | - | 0.35 | |
| | Carmine red lake | | | 0.14 |
| | Bismuth oxychloride | 1.00 | 7.00 | 7.00 |
| | Mica | 35.00 | 35.00 | 35.00 |
| | Sericite | 39.74 | 16.09 | 4.07 |
| | Pearlescent agents | | 10.00 | 23.20 |
| | Boron nitride | 8.00 | 8.00 | 8.00 |
| | Carnaba wax | 1.00 | 1.00 | 1.00 |
| | Glass microbeads | 10.00 | 10.00 | 10.00 |
| Phase A2 | Isononyl isononanoate | 3.00 | 3.00 | 3.00 |
| | Active principles/ vitamins | q.s. | q.s. | q.s. |

All the constituents of phase A1 are mixed in a Lodige mixer for 15 minutes (without emptying).

The constituents of phase A2 are added to A1 with stirring and mixing is carried out for 15 minutes.

The mixture obtained is subsequently milled in a pin mill at a speed of 1800 revolutions/minute.

A composition in the powder form is obtained which confers on the skin, after application, a natural makeup veil, the coloured effect of which is not softened to any great extent with respect to the coloured effect of the colouring materials alone.

CLAIMS

1. Anhydrous cosmetic composition in the powder form comprising at least one pulverulent phase and a fatty binder, the said pulverulent phase comprising:
   i) at least one first spherical solid particle having a refractive index of less than or equal to 1.6,
   ii) boron nitride particles, and
   iii) 10 to 90% by weight, with respect to the total weight of the composition, of at least one lamellar particle.

2. Composition according to the preceding claim, characterized in that the first solid particles are nondeformable particles.

3. Composition according to any one of the preceding claims, characterized in that the first particles are spherical solid glass particles.

4. Composition according to any one of the preceding claims, characterized in that the first spherical solid particles and the boron nitride particles are present in a content such that the ratio by weight of the first spherical solid particles to the boron nitride particles is between 1 and 15 and preferably 1 and 2.

5. Composition according to any one of the preceding claims, characterized in that it comprises:
   i) at least one first particle in the form of glass beads,
   ii) boron nitride particles,
   iii) 10 to 90% by weight, with respect to the total weight of the composition, of at least one lamellar particle.

6. Composition according to the preceding claim, characterized in that the pulverulent phase comprises at least one lamellar pearlescent agent and at least two lamellar fillers.

7. Composition according to of the preceding claim, characterized in that the lamellar pearlescent agent is chosen from bismuth oxychloride, mica covered with titanium oxide, and their mixture.

8. Composition according to claim 6, characterized in that the lamellar filler is chosen from mica, sericite and their mixture.

9. Composition according to any one of the preceding claims, characterized in that it comprises at least one pigment chosen from metal oxide pigments.

10. Composition according to any one of Claim 9, characterized in that it comprises at least one first pigment chosen from iron oxide pigments and at least one second pigment chosen from titanium dioxide pigments.

11. Composition according to any one of the preceding claims, characterized in that the fatty binder comprises an oil which is isononyl isononanoate.

12. Anhydrous cosmetic composition in the powder form comprising:

i) 1 to 20% of spherical solid particles having a refractive index of less than or equal to 1.6,

ii) 1 to 20% of boron nitride particles,

iii) 1 to 30% by weight, with respect to the total weight of the composition, of at least one pigment chosen from iron oxides, titanium oxides and their mixture,

iv) 20 to 85% by weight, with respect to the total weight of the composition, of at least one lamellar filler,

v) 2 to 7% by weight, with respect to the total weight of the composition, of at least one fatty binder.

13. Method for making up the skin of the face and/or of the body, comprising the application to the said skin of a composition according to any one of Claims 1 to 12.

14. Use of a composition according to any one of Claims 1 to 12, in order to obtain a natural makeup veil, the coloured effect of which is not softened to any great extent with respect to the coloured effect of the colouring materials alone.

# INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/054497

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K8/04 A61K8/25 A61K8/92 A61Q1/02 A61Q1/12

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)
A61K A61Q

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | EP 1 541 115 A (CATALYSTS & CHEMICALS INDUSTRIES) 15 June 2005 (2005-06-15) paragraph [0014] - paragraph [0015] paragraph [0021] paragraph [0037] example 7 | 1,2,4, 6-14 |
| Y | EP 1 616 840 A (SHISEIDO) 18 January 2006 (2006-01-18) paragraph [0044] - paragraph [0051] example 2 | 1-14 |
| Y | WO 01/51017 A (COLOR ACCESS) 19 July 2001 (2001-07-19) page 4, line 16 - page 5, line 11 example 1 | 1-14 |

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 12 June 2008 | 02/07/2008 |

| Name and mailing address of the ISA/ | Authorized officer |
|---|---|
| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,<br>Fax: (+31-70) 340-3016 | Irwin, Lucy |

# INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | US 2005/118220 A1 (CATALYSTS & CHEMICALS INDUSTRIES) 2 June 2005 (2005-06-02) paragraph [0087] - paragraph [0088] example 5 | 1-14 |
| Y | EP 1 424 372 A (NIHONKOKEN KOUGYO KABUSHIKI KA) 2 June 2004 (2004-06-02) example 6 | 1-14 |
| Y | FR 2 886 853 A (SAINTROND ALAIN) 15 December 2006 (2006-12-15) example 5 | 1-14 |
| Y | FR 2 862 534 A (L'OREAL) 27 May 2005 (2005-05-27) page 3, line 15 - page 4, line 34; examples 1,2 | 1-14 |
| Y | EP 1 555 009 A (L'OREAL) 20 July 2005 (2005-07-20) paragraph [0076] - paragraph [0080]; example 1 | 1-14 |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2008/054497

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
| EP 1541115 A | 15-06-2005 | AU 2003248263 A1 | 02-02-2004 |
| | | CN 1665469 A | 07-09-2005 |
| | | WO 2004006873 A1 | 22-01-2004 |
| EP 1616840 A | 18-01-2006 | AU 2004223979 A1 | 07-10-2004 |
| | | CN 1764603 A | 26-04-2006 |
| | | JP 2004292266 A | 21-10-2004 |
| | | WO 2004085315 A1 | 07-10-2004 |
| | | KR 20050111621 A | 25-11-2005 |
| | | US 2006188432 A1 | 24-08-2006 |
| WO 0151017 A | 19-07-2001 | AT 293423 T | 15-05-2005 |
| | | AU 2786301 A | 24-07-2001 |
| | | CA 2366619 A1 | 19-07-2001 |
| | | DE 60110179 D1 | 25-05-2005 |
| | | EP 1198218 A2 | 24-04-2002 |
| | | JP 2003519645 T | 24-06-2003 |
| | | US 2005220739 A1 | 06-10-2005 |
| | | US 2003157041 A1 | 21-08-2003 |
| US 2005118220 A1 | 02-06-2005 | NONE | |
| EP 1424372 A | 02-06-2004 | CN 1541255 A | 27-10-2004 |
| | | WO 03016409 A1 | 27-02-2003 |
| | | US 2005061205 A1 | 24-03-2005 |
| FR 2886853 A | 15-12-2006 | EP 1769786 A1 | 04-04-2007 |
| FR 2862534 A | 27-05-2005 | NONE | |
| EP 1555009 A | 20-07-2005 | FR 2864765 A1 | 08-07-2005 |
| | | JP 2005194277 A | 21-07-2005 |