Abstract: The present invention relates to a composition which can efficiently cleanse the skin, while delivering skin care benefits such as: oil control, mattifying, brightening and skin homogeneity. Such a composition can be achieved by a composition comprising: (a) from 40 to 99%, preferably from 50 to 98%, and more preferably from 80 to 95% by weight of water, relative to the total weight of the composition, (b) at least one nonionic surfactant; and (c) at least one amorphous agglomerate particle. The composition according to the present invention can provide superior mattifying and/or cleansing effects and/or brightening the skin and/or delivering skin homogeneity effects for the skin and can be used without the need to rinse.
DESCRIPTION

CLEANSING COMPOSITION CONTAINING AMORPHOUS AGGLOMERATE PARTICLE

TECHNICAL FIELD

The present invention relates to a composition which can efficiently cleanse the skin, while delivering skin care benefits such as: oil control, mattifying, brightening and skin homogeneity.

BACKGROUND ART

The foaming cleanser is the usual product to cleanse the face. However, in hot and humid emerging countries such as India, China and Indonesia, water is often a limited resource, yet consumers have a need to repeatedly wash their face in an effort to reduce sweat and sebum build-up, as well as for religious practices.

So far, a pack type face cleansing composition comprising sebum-absorbing powder, water-repellant powder, a non-ionic surfactant and water is known in the art (EP 0 282 823 A2). However, it is bothersome to wait for the pack type composition to dry on the face every time even if the drying property has been improved. Furthermore, when such type of composition is used, remaining powder should be thoroughly washed off with water. This is also bothersome and cannot be said as convenient especially for the countries or areas where water is a limited resource.

Furthermore, some cosmetic lotions containing polymer particles are also known in the art (US 4294823, EP 0 998 902 A1). However, these cosmetic lotions are not sufficient for the cleansing ability and mattifying effect.

Therefore, there is a strong need for an on-the-go, mild cleanser to brighten, mattify, and cleanse the skin without the need to rinse, contrary to most cleansing products, that can be used multiple times during the day, particularly in countries with limited access to running water.

DISCLOSURE OF INVENTION

An objective of this invention is to propose a composition, such as a leave-on cleansing lotion, that efficiently cleanses the skin, while delivering skin care benefits such as: oil control and mattifying, without the need to rinse. This has been achieved by combining the best associations of particles, which are able to clean and mattify the skin after application to aid in long-term oil control.

A composition with selected particles that can deliver well-perceived cleansed skin that is mattified is proposed by the present invention. In a preferable embodiment, the composition can also brighten the skin and deliver skin homogeneity.

In a preferable embodiment, after the usage of the composition, the skin feels refreshed and soft.
The above objective can be achieved by a composition, preferably a cosmetic composition, comprising:

(a) from 40 to 99%, preferably from 50 to 98%, and more preferably from 80 to 95% by weight of water, relative to the total weight of the composition,

(b) at least one nonionic surfactant, and

(c) at least one amorphous agglomerate particle.

The amorphous agglomerate particle may have a specific surface area of from 5 to 400 m²/g, preferably from 150 to 400 m²/g, and more preferably from 250 to 350 m²/g.

The amorphous agglomerate particle may have a particle size of smaller than 30 µm, preferably from 1 to 25 µm, more preferably from 2 to 12 µm, and even more preferably from 3 to 6 µm.

It is preferable that the amorphous agglomerate particle be selected from the group consisting of an amorphous agglomerate hydrated silica and an amorphous agglomerate magnesium alumino silicate.

In a preferred embodiment, the amorphous agglomerate hydrated silica may have a specific surface area of from 250 to 270 m²/g and/or a particle size of from 3 to 6 µm.

In a preferred embodiment, the amorphous agglomerate magnesium alumino silicate may have a specific surface area of from 320 to 340 m²/g and a particle size of from 10 to 12 µm.

In a preferred embodiment, the HLB value of the nonionic surfactant may be more than 8, more preferably more than 9, and even more preferably more than 10.

In a preferred embodiment, the nonionic surfactant be selected from the group consisting of PEG-6 caprylic/capric glycerides or peg-7 caprylic/capric glycerides, PEG-12 dimethicone, Polysorbate 80®-PP©-6-decyltetradeceth-30 and PPG-10 methyl glucoside.

The amount of the nonionic surfactant may be from 0.005 to 20% by weight, more preferably from 0.01 to 5% by weight, relative to the total weight of the composition.

The amount of the amorphous agglomerate particle may be from 0.005 to 20% by weight, and preferably from 0.1 to 5% by weight, relative to the total weight of the composition.

It is preferable that the composition of the invention further contain kaolin or kaolin derivatives.

It is preferable that the concentration of kaolin or kaolin derivatives in the composition be from 0.1 to 5% by weight, and more preferably from 0.5 to 2% by weight, relative to the total weight of the composition.

In a preferred embodiment, the composition of the invention may further comprise at least one organic polymeric particles such as methyl methacrylate cross-polymer hollow particle.
It is preferable that the concentration of the organic polymeric particle(s) in the composition be from 0.1 to 5 % by weight, and more preferably from 0.5 to 2 % by weight, relative to the total weight of the composition.  

The present invention also relates to a non-therapeutic cosmetic method for cleansing and/or mattifying the skin and/or brightening the skin and/or delivering skin homogeneity, comprising applying the composition according to the invention.

BEST MODE FOR CARRYING OUT THE INVENTION

After diligent research, the inventors have discovered that it is possible to provide a composition such as a leave-on cleansing lotion, that efficiently cleanses the skin, while delivering skin care benefits such as: oil control and mattifying. In a preferable embodiment, the composition can also brighten the skin and deliver skin homogeneity.

Thus, the composition according to the present invention comprises:

(a) from 40 to 99%, preferably from 50 to 98%, and more preferably from 80 to 95% by weight of water, relative to the total weight of the composition,

(b) at least one nonionic surfactant, and

(c) at least one amorphous agglomerate particle.

(Water)

The water that is suitable for use can be of any type of water such as for example tap water, mineralized or demineralized water. In the present invention, water may be also a floral water such as cornflower water and/or a mineral water such as Vittel water, Lucas water or La Roche Posay water and/or a spring water.

(Nonionic Surfactant)

The nonionic surfactants are compounds well known in themselves (see, e.g., in this regard, "Handbook of Surfactants" by M. R. Porter, Blackie & Son publishers (Glasgow and London), 1991, pp. 116-178). Thus, they can, for example, be chosen from alcohols, alpha-diols, alkyphenols and esters of fatty acids, these compounds being ethoxylated, propoxylated or glycerolated and having at least one fatty chain comprising, for example, from 8 to 30 carbon atoms, it being possible for the number of ethylene oxide or propylene oxide groups to range from 2 to 50, and for the number of glycerol groups to range from 1 to 30. Maltose derivatives may also be mentioned. Non-limiting mention may also be made of copolymers of ethylene oxide and/or of propylene oxide; condensates of ethylene oxide and/or of propylene oxide with fatty alcohols; polyethoxylated fatty amides comprising, for example, from 2 to 30 mol of ethylene oxide; polyglycerolated fatty amides comprising, for example, from 1.5 to 5 glycerol groups, such as from 1.5 to 4; ethoxylated fatty acid esters of sorbitan comprising from 2 to 30 mol of ethylene oxide; ethoxylated oils of plant origin; fatty acid esters of sucrose; fatty acid esters of polyethylene glycol; polyethoxylated fatty acid mono or diesters of glycerol (C6-C24)alky(poly)glycosides;
N-(C₆-C₂₄)alkylglucamine derivatives; amine oxides such as (C₃₋₆)alkylamine oxides or
N-(C₁₀-C₄₄)acylaminopropylmorpholine oxides; silicone surfactants; and mixtures thereof.

The nonionic surfactants may preferably be chosen from monooxyalkylenated,
polyoxyalkylenated, monoglycerolated or polyglycerolated nonionic surfactants. The
oxyalkylene units are more particularly oxyethylene or oxypropylene units, or a combination
thereof, and are preferably oxyethylene units.

Examples of monooxyalkylenated or polyoxyalkylenated nonionic surfactants that may be
mentioned include:
monooxyalkylenated or polyoxyalkylenated (C₈-C₂₄)alkylphenols,
saturated or unsaturated, linear or branched, monooxyalkylenated or polyoxyalkylenated C₈-C₃₀
alcohols,
saturated or unsaturated, linear or branched, monooxyalkylenated or polyoxyalkylenated C₈-C₃₀
amides,
esters of saturated or unsaturated, linear or branched, C₈-C₃₀ acids and of polyalkylene glycols,
monooxyalkylenated or polyoxyalkylenated esters of saturated or unsaturated, linear or branched,
C₈-C₃₀ acids and of sorbitol,
saturated or unsaturated, monooxyalkylenated or polyoxyalkylenated plant oils,
condensates of ethylene oxide and/or of propylene oxide, inter alia, alone or as mixtures.

The surfactants preferably contain a number of moles of ethylene oxide and/or of propylene oxide
of between 1 and 100 and most preferably between 2 and 50. Advantageously, the nonionic
surfactants do not comprise any oxypropylene units.

According to one of the embodiments of the present invention, the polyoxyalkylenated nonionic
surfactants are chosen from polyoxyalkylenated fatty alcohol (polyoxyethylenated (1-40 EO) and
polyoxypropylenated (1-30 PO) alkyl (C₁₆-C₃₀) ethers, and polyethylene glycol ether of fatty
alcohol)* and polyoxyethylene glycol ester of fatty acid).

Examples of the polyoxyethylenated (15-40 EO) and polyoxypropylenated (5-30 PO) alkyl
(C₁₆-C₂₄) ethers that may be mentioned include PPG-6 Decyltetradeceth-30, PPG-13
Decyltetradeceth-24, PPG-6 Decyltetradeceth-20, PPG-5 Ceteth-20, PPG-8 Ceteth-20, and
PPG-23 Steareth-34.

Examples of polyoxyethylenated fatty alcohol (or C₈-C₃₀ alcohols) that may be mentioned include
the adducts of ethylene oxide with lauryl alcohol, especially those containing from 9 to 50
oxyethylene units and more particularly those containing from 10 to 12 oxyethylene units
(Laureth-10 to Laureth-12, as the CTFA names); the adducts of ethylene oxide with behenyl
alcohol, especially those containing from 9 to 50 oxyethylene units (Beheneth-9 to Beheneth-50,
as the CTFA names); the adducts of ethylene oxide with cetearyl alcohol (mixture of cetyl alcohol
and stearyl alcohol), especially those containing from 10 to 30 oxyethylene units (Ceteareth-10 to
Ceteareth-30, as the CTFA names); the adducts of ethylene oxide with cetyl alcohol, especially
those containing from 10 to 30 oxyethylene units (Ceteth-10 to Ceteth-30, as the CTFA names);
the adducts of ethylene oxide with stearyl alcohol, especially those containing from 10 to 30
Oxyethylene units (Steareth-10 to Steareth-30, as the CTFA names); the adducts of ethylene oxide with isostearyl alcohol, especially those containing from 10 to 50 oxyethylene units (Isosteareth-10 to Isosteareth-50, as the CTFA names); and mixtures thereof.

As examples of monoglycerolated or polyglycerolated nonionic surfactants, monoglycerolated or polyglycerolated C₈-C₄₀ alcohols are preferably used.

In particular, the monoglycerolated or polyglycerolated C₈-C₄₀ alcohols correspond to the following formula:

\[ \text{RO-[CH}_2\text{-CH(CHOH)-0]}_m\text{-H or RO-[CH(CH}_2\text{OH)-CH}_2\text{0]}_m\text{-H} \]

in which R represents a linear or branched C₈-C₄₀ and preferably C₈-C₃₀ alkyl or alkenyl radical, and m represents a number ranging from 1 to 30 and preferably from 1.5 to 10.

As examples of compounds that are suitable in the context of the present invention, mention may be made of lauryl alcohol containing 4 mol of glycerol (INCI name: Polyglyceryl-4 Lauryl Ether), lauryl alcohol containing 1.5 mol of glycerol, oleyl alcohol containing 4 mol of glycerol (INCI name: Polyglyceryl-4 Oleyl Ether), oleyl alcohol containing 2 mol of glycerol (INCI name: Polyglyceryl-2 Oleyl Ether), cetearyl alcohol containing 2 mol of glycerol, cetearyl alcohol containing 6 mol of glycerol, oleocetyl alcohol containing 6 mol of glycerol, and octadecanol containing 6 mol of glycerol.

The alcohol may represent a mixture of alcohols in the same way that the value of m represents a statistical value, which means that, in a commercial product, several species of polyglycerolated fatty alcohol may coexist in the form of a mixture.

Among the monoglycerolated or polyglycerolated alcohols, it is preferable to use the C₈/C₆₀ alcohol-containing 1 mol of glycerol, the C₁₀/C₁₂ alcohol containing 1 mol of glycerol and the C₁₂ alcohol containing 1.5 mol of glycerol.

The monoglycerolated or polyglycerolated C₈-C₄₀ fatty esters may correspond to the following formula:

\[ \text{R'}0\text{-[CH}_2\text{-CH(CHOH')-0]}_m\text{-R'' or R'}0\text{-[CH(CH}_2\text{OR'')-CH}_2\text{0]}_m\text{-R''} \]

in which each of R', R'' and R''' independently represents a hydrogen atom, or a linear or branched C₈-C₄₀ and preferably C₈-C₃₀ alkyl-CO- or alkenyl-CO-radical, with the proviso that at least one of R', R'' and R''' is not a hydrogen atom, and m represents a number ranging from 1 to 30 and preferably from 1.5 to 10.

Examples of polyoxyethyleneated fatty esters that may be mentioned include the adducts of ethylene oxide with esters of lauric acid, palmitic acid, stearic acid or behenic acid, and mixtures thereof, especially those containing from 9 to 100 oxyethylene units, such as PEG-9 to PEG-50 laurate (as the CTFA names: PEG-9 laurate to PEG-50 laurate); PEG-9 to PEG-50 palmitate (as
the CTFA names: PEG-9 palmitate to PEG-50 palmitate; PEG-9 to PEG-50 stearate (as the CTFA names: PEG-9 stearate to PEG-50 stearate); PEG-9 to PEG-50 palmitostearate; PEG-9 to PEG-50 behenate (as the CTFA names: PEG-9 behenate to PEG-50 behenate); polyethylene glycol 100 EO monostearate (CTFA name: PEG-100 stearate); and mixtures thereof.

According to one of the embodiments according to the present invention, the nonionic surfactant may be selected from esters of polyols with fatty acids with a saturated or unsaturated chain containing for example from 8 to 24 carbon atoms, preferably 8 to 18 carbon atoms, and polyoxyalkylenated derivatives thereof, preferably containing from 1 to 20, and more preferably from 6 to 10 oxyalkylene units, such as glyceryl esters of a C₈-C₁₄, preferably C₈-C₁₄, fatty acid or acids and polyoxyalkylenated derivatives thereof, preferably containing from 1 to 20, and more preferably from 6 to 10 oxyalkylene units; sorbitol esters of a C₁₂-C₂₂, preferably C₁₂-C₂₂, fatty acid or acids and polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200, and more preferably from 10 to 100 oxyalkylene units; sugar (sucrose, maltose, glucose, fructose, and/or alkylglycoses) esters of a C₈-C₄₄, preferably C₁₂-C₂₄, fatty acid or acids and polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200, and more preferably from 10 to 100 oxyalkylene units; ethers of fatty acids; ethers of sugar and a C₈-C₂₄, preferably C₁₂-C₂₂, fatty alcohol or alcohols; and mixtures thereof.

Preferably, as examples of polyoxyalkylenated derivatives of esters of polyols with fatty acids with a saturated or unsaturated chain containing 8 to 18 carbon atoms, polyalkylene glycol derivatives of a mixture of mono-, di-, and tryglycerides of C₈-C₁₂ fatty acid can be cited, such as PEG-6 caprylic/capric glycerides and PEG-7 caprylic/capric glycerides.

As glyceryl esters of fatty acids, glyceryl stearate (glyceryl mono-, di- and/or tristearate) (CTFA name: glyceryl stearate) or glyceryl ricinoleate and mixtures thereof can be cited, and as polyoxyalkylenated derivatives thereof, mono-, di- or triester of fatty acids with a polyoxyalkylenated glycerol (mono-, di- or triester of fatty acids with a polyalkylene glycol ether of glycerol), preferably polyoxyethylated glyceryl stearate (mono-, di- and/or tristearate), such as PEG-20 glyceryl stearate (mono-, di- and/or tristearate) can be cited.

Mixtures of these surfactants, such as for example the product containing glyceryl stearate and PEG-100 stearate, marketed under the name ARLACEL 165 by Uniqema, and the product containing glyceryl stearate (glyceryl mono- and distearate) and potassium stearate marketed under the name TEGIN by Goldschmidt (CTFA name: glyceryl stearate SE), can also be used.

The sorbitol esters of C₈-C₂₄ fatty acids and polyoxyalkylenated derivatives thereof can be selected from sorbitan palmitate, sorbitan isostearate, sorbitan monoooleate, sorbitan trioleate, and esters of fatty acids and alkoxylated sorbitan containing for example from 20 to 100 EO, such as for example sorbitan monostearate (CTFA name: sorbitan stearate), sold by the company ICI under the name Span 60, sorbitan monopalmitate (CTFA name: sorbitan palmitate), sold by the company ICI under the name Span 40, and sorbitan tristearate 20 EO (CTFA name: polysorbate 65), sold by the company ICI under the name Tween 65, polyethylene sorbitan monooleate (polysorbate 80), polyethylene sorbitan trioleate (polysorbate 85) or the compounds marketed under the trade names Tween 20 or Tween 60 by Uniqema.
As esters of fatty acids and glucose or alkylglucose, glucose palmitate, alkylglucose sesquistearates such as methylglucose sesquistearate, alkylglucose palmitates such as methylglucose or ethylglucose palmitate, methylglucoside fatty esters, the diester of methylglucoside and oleic acid (CTFA name: Methyl glucose dioleate), the mixed ester of methylglucoside and the mixture of oleic acid/hydroxystearic acid (CTFA name: Methyl glucose dioleate/hydroxystearate), the ester of methylglucoside and isostearic acid (CTFA name: Methyl glucose isostearate), the ester of methylglucoside and lauric acid (CTFA name: Methyl glucose laurate), the mixture of monoester and diester of methylglucoside and isostearic acid (CTFA name: Methyl glucose sesqui-isostearate), the mixture of monoester and diester of methylglucoside and stearic acid (CTFA name: Methyl glucose sesquistearate) and in particular the product marketed under the name Glucate SS by AMERCHOL, and mixtures thereof can be cited.

As ethoxylated ethers of fatty acids and glucose or alkylglucose, ethoxylated ethers of fatty acids and methylglucose, and in particular the polyethylene glycol ether of the diester of methylglucoside and stearic acid with about 20 moles of ethylene oxide (CTFA name: PEG-20 methyl glucose distearate) such as the product marketed under the name Glucam E-20 distearate by AMERCHOL, the polyethylene glycol ether of the mixture of monoester and diester of methyl-glucose and stearic acid with about 20 moles of ethylene oxide (CTFA name: PEG-20 methyl glucose sesquistearate) and in particular the product marketed under the name Glucamate SSE-20 by AMERCHOL and that marketed under the name Grillocose PSE-20 by GOLDSCHMIDT, and mixtures thereof, can for example be cited.

As examples of compounds that are suitable in the context of the present invention, mention may also be made of alkoxylated methyl glucose derivatives. Examples of alkoxylated methyl glucose derivatives that may be mentioned include PPG-10 methyl glucoside, PPG-20 methyl glucoside and polyethylene glycol (10 or 20) ether of methyl glucose.

As sucrose esters, saccharose palmito-stearate, saccharose stearate and saccharose monolaurate can for example be cited.

As sugar ethers, alkylpolyglucosides can be used, and for example decylglucoside such as the product marketed under the name MYDOL 10 by Kao Chemicals, the product marketed under the name PLANTAREN 2000 by Henkel, and the product marketed under the name ORAMLX NS 10 by Seppic, caprylyl/capryl glucoside such as the product marketed under the name ORAMIX CG 110 by Seppic or under the name LUTENSOL GD 70 by BASF, laurylglucoside such as the products marketed under the names PLANTAREN 1200 N and PLANTACARE 1200 by Henkel, coco-glucoside such as the product marketed under the name PLANTACARE 818/UP by Henkel, cetostearyl glucoside possibly mixed with cetostearyl alcohol, marketed for example under the name MONTANOV 68 by Seppic, under the name TEGO-CARE CG90 by Goldschmidt and under the name EMULGADE KE3302 by Henkel, arachidyl glucoside, for example in the form of the mixture of arachidyl and behenyl alcohols and arachidyl glucoside marketed under the name MONTANOV 202 by Seppic, cocoylethylglucoside, for example in the form of the mixture (35/65) with cetyl and stearyl alcohols, marketed under the name MONTANOV 82 by Seppic, and
mixtures thereof can in particular be cited.

Mixtures of glycerides of alkoxylated plant oils such as mixtures of ethoxylated (200 EO) palm and copra (7 EO) glycerides can also be cited.

The nonionic surfactant according to the present invention preferably contains alkenyl or branched C_{12}-C_{2} acyl chain such as oleyl or isostearoyl group. More preferably, the nonionic surfactant according to the present invention is PEG-20 glyceryl triisostearate.

According to one of the embodiments according to the present invention, the nonionic surfactant may be selected from copolymers of ethylene oxide and of propylene oxide, in particular copolymers of the following formula:

$$\text{HO}(\text{C}_2\text{H}_40)_{a}(\text{C}_3\text{H}_60)_{b}(\text{C}_2\text{H}_40)_{c}\text{H}$$

in which a, b and c are integers such that a+c ranges from 2 to 100 and b ranges from 14 to 60, and mixtures thereof.

According to one of the embodiments according to the present invention, the nonionic surfactant may be selected from silicone surfactants. Non-limiting mention may be made of those disclosed in documents US-A-5364633 and US-A-5411744.

The silicone surfactant may preferably be a compound of formula (I):

$$\text{CH}_3\text{SiO}\left(\text{CH}_3\right)_{n}\text{SiO}\left(\text{CH}_3\right)_{m}\text{SiO}\left(\text{R}_1\right)\text{SiO}\left(\text{R}_2\right)\text{SiO}\left(\text{R}_3\right)$$

where:

- R_{1, 2} and R_{3}, independently of each other, represent a C_{1}-C_{6} alkyl radical, a radical -(CH₂)ₓ-(OCH₂CH₂)ᵧ-(OCH₂CH₂CH₂)₂-OR₄, or a radical -(CH₂)ₓ-0-(OCH₂CH₂)ᵧ-R₄, at least one radical R_{1}, R_{2} or R_{3} not being an alkyl radical; R_{1} being a hydrogen, an alkyl radical or an acyl radical;
- A is an integer ranging from 0 to 200;
- B is an integer ranging from 0 to 50; with the proviso that A and B are not simultaneously equal to zero;
- x is an integer ranging from 1 to 6;
- y is an integer ranging from 1 to 30;
- z is an integer ranging from 0 to 5.

According to one preferred embodiment of the present invention, in the compound of formula (I), the alkyl radical is a methyl radical, x is an integer ranging from 2 to 6 and y is an integer ranging from 4 to 30.
As examples of silicone surfactants of formula (I), mention may be made of the compounds of formula (II):

\[
(\text{CH}_3)_3\text{SiO} - [(\text{CH}_3)_{2}2\text{SiO}]_{\alpha} - (\text{CH}_3\text{SiO})_{\beta} \cdot \text{Si}((\text{CH}_3)_3
\]

\[(\text{CH}_2)_{2-x}2\text{(OCH}_2\text{CH}_2)_{y-}\text{OH})\]

in which \(A\) is an integer ranging from 20 to 105, \(B\) is an integer ranging from 2 to 10 and \(y\) is an integer ranging from 10 to 20.

As examples of silicone surfactants of formula (I), mention may also be made of the compounds of formula (III):

\[
\text{H}-(\text{OCH}_2\text{CH}_2)_{y-}((\text{CH}_3)_23\cdot((\text{CH}_3)_{2}2\text{SiO})_{\alpha}-(\text{CH}_3)_{2}3\cdot(\text{OCH}_2\text{CH}_2)_{y-}\text{OH})
\]

in which \(A'\) and \(y\) are integers ranging from 10 to 20.

Compounds of the present invention which may be used are those sold by the company Dow Corning under the names DC 5329, DC 7439-146, DC 2-5695 and Q4-3667. The compounds DC 5329, DC 7439-146 and DC 2-5695 are compounds of formula (II) in which, respectively, \(A\) is 22, \(B\) is 2 and \(y\) is 12; \(A'\) is 103, \(B\) is 10 and \(y\) is 12; \(A'\) is 27, \(B\) is 3 and \(y\) is 12.

The compound Q4-3667 is a compound of formula (III) in which \(A\) is 15 and \(y\) is 13.

The HLB of the nonionic surfactant(s) may be more than 8, preferably more than 9, more preferably more than 10. If two or more nonionic surfactants are used, the HLB value is determined by the weight average of the HLB values of all the nonionic surfactants. The HLB is the ratio between the hydrophilic part and the lipophilic part in the molecule. This term HLB is well-known to those skilled in the art and is described in "The HLB system. A time-saving guide to emulsifier selection" (published by ICI Americas Inc., 1984). If the HLB of the nonionic surfactant(s) is lower than 8, the oily feeling after rinsing-off would remain. If the HLB of the nonionic surfactant(s) is higher than 13, the removability of the composition would be worse.

Preferred nonionic surfactants which can be used in the composition of the invention of the present application can be selected from the group consisting of polyalkylene glycol derivative of a mixture of mono-, di-, and tryglycerides of C_8-C_{12} fatty acid, silicone surfactant of a compound of formula (I):

\[
\begin{array}{c}
\text{R}_1 \text{SiO} - \text{O} \text{SiO} - A \text{SiO} - B \text{SiO} - \text{R}_3 \\
\text{CH}_3 & \text{CH}_3 & \text{CH}_3 & \text{CH}_3 & \text{CH}_3 \\
\text{CH}_3 & \text{CH}_3 & \text{CH}_3 & \text{CH}_3 & \text{CH}_3
\end{array}
\]

(III)

in which:

\(R_1, R_2\) and \(R_3\), independently of each other, represent a C_{7}-C_{6} alkyl radical, a radical...
\[-(CH_2)x-(OCH_2CH_2)_y-OR_4, \text{ or a radical } -(CH_2)_x-0-(OCH_2CH_2)_y-R_4, \text{ at least one radical } R_1, R_2 \text{ or } R_3 \text{ not being an alkyl radical; } R_4 \text{ being a hydrogen, an alkyl radical or an acyl radical; } \]

A is an integer ranging from 0 to 200;
B is an integer ranging from 0 to 50; with the proviso that A and B are not simultaneously equal to zero;
x is an integer ranging from 1 to 6;
y is an integer ranging from 1 to 30;
z is an integer ranging from 0 to 5.

sorbitol esters of C_8-C_24 fatty acids and polyoxyalkylenated derivatives thereof, polyoxyethylated (1-40 EO) and polyoxypropylated (1-30 PO) alkyl (C_6-C_30) ethers, and alkoxyalted methyl glucose derivatives.

More preferred nonionic surfactants which can be used in the composition of the invention of the present application are given below:
- PEG-6 caprylic/capric glycerides or peg-7 caprylic/capric glycerides
- PEG-12 dimethicone
- Polysorbate 80
- PPG-6-decyltetradeceth-30
- PPG-10 methyl glucoside.

The amount of the (b) at least one nonionic surfactant may be from 0% to 20% by weight, preferably from 0.005% to 20% by weight, more preferably from 0.1% to 5% by weight, and even more preferably from 0.1 to 1% by weight, relative to the total weight of the composition. The lower limit of the amount of the (b) at least one nonionic surfactant can be selected from the group consisting of 0%, 0.005%, 0.01% and 0.1% by weight, relative to the total weight of the composition. The upper limit of the amount of the (b) at least one nonionic surfactant can be selected from the group consisting of 20%, 5% and 1% by weight, relative to the total weight of the composition.

(Amorphous Agglomerate Particles)

The amorphous agglomerate particle of component (c) can be defined as clusters of particles held together by weak physical interactions, and may be more broadly and simply defined as a mass of particles.

The amorphous agglomerate particles have no real defined structure versus particles that have a clearly well-defined structure, such as spheres, crystals, and blocks.

The specific surface area per unit of mass of the amorphous agglomerate particles may be determined by BET theory. Brunauer-Emmett-Teller (BET) theory aims to explain the physical adsorption of gas molecules on a solid surface and serves as the basis for an important analysis technique for the measurement of the specific surface area of a material. The specific surface area of the amorphous agglomerate particle of component (c) may be from 5 to 400 m²/g, preferably from 150 to 400 m²/g, and more preferably from 250 to 350 m²/g. In a preferable
embodiment, the amorphous agglomerate hydrated silica may have a specific surface area of from 250 to 270 m²/g. In a preferable embodiment, the amorphous agglomerate magnesium aluminum silicate may have a specific surface area of from 320 to 340 m²/g.

5 The particle size of the amorphous agglomerate particle in the finish product of the composition (i.e., in a liquid composition) may be smaller than 30 μm, from 1 μm to 25 μm, preferably from 2 to 14 μm, more preferably from 2 to 12 μm, and even more preferably from 3 to 6 μm. The particle size of the amorphous agglomerate particle means the median of secondary particle diameter of the amorphous agglomerate particle. In a preferable embodiment, the particle size of the amorphous agglomerate particle may be from 3 to 5 μm and from 10 to 12 μm.

10 In a preferred embodiment, the amorphous agglomerate hydrated silica may have a specific surface area of from 250 to 270 m²/g and/or a particle size of from 3 to 5 μm. In another preferred embodiment, the amorphous agglomerate magnesium aluminum silicate may have a specific surface area of from 320 to 340 m²/g and/or a particle size of from 10 to 12 μm.

15 In a preferred embodiment, oil adsorption of the amorphous agglomerate particle may be from 2.5 g to 4.5 g oil adsorption/g particle.

20 The amorphous agglomerate particles may be composed of material selected from the group comprising silicas, especially amorphous hydrated silicas, magnesium aluminosilicate, aluminas, calcium carbonates, dicalcium phosphate, tribasic calcium phosphates, hectorites, saponites, aragonites, dolomites, talcites, hydroxytalcites, spangolites, zinctes, zinctosilicates, insoluble metaphosphates, calcium pyrophosphates, hydroxyapatites, perlites, zeolites, clays, magnesium carbonate, pumice and volcanic ash, or mixtures of two or more of these components.

25 The amorphous, agglomerate particles may be either natural or synthetic origin: for example, hydrated silica, magnesium aluminosilicate, magnesium aluminosilicate, and/or lauryl methacylate/glycol-dimethacylate crosspolymer?"?

30 The amorphous agglomerate particles may also be chosen from matting agents.

"Matting agent" means agents intended to make the skin visibly more matt, less shiny. The matting effect of the agent and/or of the composition containing it can notably be evaluated by means of a gonioreflectometer, by measuring the ratio R of specular reflection to diffuse reflection. A value of R less than or equal to 2 generally signifies a matting effect.

35 The matting agent can notably be selected from a rice starch or a maize starch, INCI name: ZEA MAYS (CORN) STARCH such as in particular the product sold under the trade name "FARMAL CS 3650 PLUS 036500" by National Starch, kaolinite, talc, a pumpkin seed extract, cellulose microbeads, vegetable fibers, synthetic fibers, in particular of polyamides, microspheres of expanded acrylic copolymers, powders of polyamides, silica powders, polytetrafluoroethylene powders, silicone resin powders, powders of acrylic polymers, wax powders, polyethylene powders, powders of elastomeric crosslinked organopolysiloxane coated with silicone resin, talc/titanium dioxide/alumina/silica composite powders, powders of amorphous mixed silicates,
particles of silicate and notably of mixed silicate, and mixtures thereof.

As examples of matting agents, we may notably mention:
rice starch or maize starch, in particular an aluminum starch octenyl succinate marketed under the name Dry Flo(R) by the company National Starch,
kaolinite;
silicas;
talc;
a pumpkin seed extract such as is marketed under the name Curbilene(R) by the company Indena;
cellulose microbeads as described in patent application EP 1 562 562;
fibers, such as fibers of silk, of cotton, of wool, of flax, of cellulose extracted notably from wood, from vegetables or from algae, of polyamide (Nylon(R)), of modified cellulose, of poly-p-phenylene terephthamide, of acrylic, of polyolefin, of glass, of silica, of aramide, of carbon, of Teflon(R), of insoluble collagen, of polysteres, of polyvinyl chloride or of vinylidene, of polyvinyl alcohol, of polyacrylonitrile, of chitosan, of polyurethane, of polyethylene phthalate, fibers formed from a polymer blend, absorbable synthetic fibers, and mixtures thereof described in patent application EP 1 151 742;
microspheres of expanded acrylic copolymers such as those marketed by the company EXPANCEL under the names EXPANCEL 551(R),
fillers with an optical effect as described in patent application FR 2 869 796, in particular:
powders of polyamides (Nylon(R)), for example particles of Nylon 12 of the Orgasol type from Arkema with average size of 10 microns and refractive index 1.54,
silica powders, for example Silica beads SB150 from Miyoshi with average size of 5 microns and refractive index 1.45,
polyytetrafluoroethylene powders, such as the PTFE ceridust 9205F from Clariant with average size of 8 microns and refractive index 1.36,
silicone resin powders such as Silicon resin Tospearl 145A from GE Silicone with average size of 4.5 microns and refractive index 1.41,
powders of acrylic-copolymers notably of polymethyl (mem)acylate Ysueh as the particles
PMMA Jurymer MBI from Nihon Junyoku with average size of 8 microns and refractive index 1.49, or the particles Micropearl M1008 and F 80 ED(R) from the company Matsumoto Yushi-Seiyaku,
wax powders such as the particles Paraffin wax microease 114S of micropowders with average size of 7 microns and refractive index 1.54,
polyethylene powders, notably comprising at least one ethylene/acrylic acid copolymer, and in particular consisting of ethylene/acrylic acid copolymers such as the particles Flobeads EA 209 from Sumitomo (with average size of 10 microns and refractive index 1.48),
powders of elastomeric crosslinked organopolysiloxane coated with silicone resin, notably of silsesquioxane resin, as described for example in U.S. Pat. No. 5,538,793. Elastomer powders of this kind are sold under the names "KSP-100", "KSP-101", "KSP-102", "KSP-103", "KSP-104", "KSP-105" by the company SHIN ETSU, and
talc/titania dioxide/alumina/silica composite powders such as those sold under the name Coverleaf(R) AR-80 by the company Catalyst & chemicals,
mixtures thereof,
absorbent compounds and/or adsorbing sebum as described in patent application FR 2 869 796.
We may notably mention:
silica powders, for example the porous silica microspheres sold under the name "SILICA BEADS SB-700" marketed by the company MYOSHI, "SUNSPHERE(R) H51", "SUNSPHERE(R) H33", "SUNSPHERE(R) H53" marketed by the company ASAHI GLASS; the amorphous silica microspheres coated with polydimethylsiloxane sold under the name "SA SUNSPHERE(R) H-33" and "SA SUNSPHERE(R) H-53" marketed by the company ASAHI GLASS;

powders of polyamides (nylon(R)), for example "ORGASOL(R) 4000" marketed by the company Arkema, and

powders of acrylic polymers, notably of polymethyl methacrylate, for example "COVABEAD(R) LH85" marketed by the company WACKHERR; of polymethyl methacrylate/ethylene glycol dimethacrylate, for example "DOW CORNING 5640 MICROSPONGE(R) SKIN OIL ADSORBER" marketed by the company DOW CORNING, or "GANZPEARL(R) GMP-0820" marketed by the company GANZ CHEMICAL; of allyl polymethacrylate/ethylene glycol dimethacrylate, for example "POLY-PORES L200" or TOLY-PORE(R) E200" marketed by the company AMCOL; of ethylene glycol dimethacrylate/lauryl methacrylate copolymer, for example "POLYTRAP(R) 6603" marketed by the company DOW CORNING;

particles of silicate, such as alumina silicate;
particles of mixed silicates, such as:

particles of aluminum silicate and magnesium silicate, such as the hydrated saponite or silicate of magnesium and of aluminum with a sodium sulfate marketed under the trade name Sumecton(R) by the company Kunimine;
the complex magnesium silicate, hydroxyethylcellulose, black cumin oil, cucurbit oil and phospholipids or Matipure(R) from Lucas Meyer, and
mixtures thereof.

As preferred matting agents, according to the invention it is possible to use particles of silicate, such as alumina silicate, powders of amorphous mixed silicates, notably of aluminum and of magnesium, kaolinite, silicas, talc, powders of polyamides, powders of polyethylene, acrylic copolymers, microspheres of expanded acrylic copolymers, microbeads of silicone resins, particles of mixed silicate and mixtures thereof.

Preferable amorphous agglomerate particles are an amorphous agglomerate hydrated silica and an amorphous agglomerate magnesium alumino silicate. Finesil X-35 (Oriental Silicas Corporation) can be exemplified as a commercially available product of the amorphous agglomerate hydrated silica. Neusilin UFL2 (Fuji Chemicals) can be exemplified as a commercially available product of the amorphous agglomerate magnesium alumino silicate.

Finesil X-35 is a synthetically precipitated silica, which obtained by the chemically precipitated reaction in an aqueous solution of high purity of sodium silicate and sulfuric acid to produce amorphous agglomerates of hydrated silica. The surface area is 260 m²/g; 4.04 µm of particle size in the invention product; 4.3g oil adsorption / g particle.

Neusilin UFL2 is synthesized by spray drying method. The structure of Neusilin UFL2 is an amorphous agglomerated particle. The surface area is 331.1m²/g; 11.74 µm of particle size in
the invention product; oil adsorption range of from 2.7 to 3.1 g oil / g particle adsorption.

The amount of the amorphous agglomerate particle may be from 0.005 to 20 % by weight, preferably from 0.1 to 5 % by weight, and more preferably from 0.5 to 2 % by weight, relative to the total weight of the composition. The lower limit of the amount of the (c) at least one amorphous agglomerate particle can be selected from the group consisting of 0.005%, 0.1% and 0.5% by weight, relative to the total weight of the composition. The upper limit of the amount of the (c) at least one amorphous agglomerate particle can be selected from the group consisting of 20%, 5% and 2% by weight, relative to the total weight of the composition.

(Additional Particle)

The composition of the invention may further comprise an additional particle. The additional particle can be organic particle or inorganic particle.

(Organic Particle)

The at least one organic particle used in the composition according to the present disclosure may, for example, be chosen from polyamide powders, acrylic polymer powders, such as polymethyl methacrylate powders, acrylic copolymer powders, such as polymethyl methacrylate/ethylene glycol dimethacrylate powders, polyallyl methacrylate/ethylene glycol dimethacrylate powders, ethylene glycol dimethacrylate/lauryl methacrylate copolymer powders, and polyacrylate/alkyl acrylate powders, polystyrene powders, polyethylene powders, such as polyethylene/acrylic acid powders, and silicone resin microbeads.

The polymers constituting these organic particles may or may not be crosslinked. The monomers may be chosen, by way of non-limiting example, from methacrylic and acrylic acid esters, such as methyl acrylates and methyl methacrylate, vinylidene chloride, acrylonitrile, and styrene and its derivatives.

The inorganic particle may exhibit a number-average primary size ranging from 0.1 to 30 μm, for example, from 0.2 to 20 μm, or from 0.5 to 15 μm. As used herein, the term "primary particle size" is understood to mean the maximum dimension which it is possible to measure between two diametrically opposite points of an individual particle. The size of the organic particles can be determined, for example, by a method chosen from transmission electron microscopy, measurement of the specific surface by the BET method, and laser particle size determination.

According to one embodiment, the at least one organic particle may have a number-average primary size ranging from 1 to 30 μm, for example, from 1 to 20 μm, or from 1 to 15 μm.

Non-limiting examples of suitable organic particles include: polyamide (Nylon(R)) powders, for example, those sold under the names "Orgasol(R) 4000" and "Orgasol(R) 2002 UD NAT COS 24" by Atochem, acrylic polymer powders, for example, polymethyl methacrylate powders, such as those sold under the name "Covabead(R) LH85" and "Covabead(R) PMMA" by Wacker and those sold
under the name "Micropearl(R) MHB" by Matsumoto, acrylic copolymer powders, for example, polymethyl methacrylate/ethylene glycol dimethacrylate powders, such as those sold under the name of "Dow Corning 5640 Microspore(R) Skin Oil Adsorber" by Dow Corning and those sold under the name "Ganzpearl(R) GMP-0820" by Ganz Chemical, polyallyl methacrylate/ethylene glycol dimethacrylate powders, such as those sold under the names "Polypore(R) L200" and "Polypore(R) E200" by Amcol, ethylene glycol dimethacrylate/lauryl methacrylate copolymer powders, such as those sold under the name "Polytrap(R) 6603" by Dow Corning, and polyacrylate/ethylhexyl acrylate powders, such as those sold under the name "Techpolymer(R) ACX 806C" by Sekisui, polystyrene/divinylbenzene powders, such as those sold under the name "Techpolymer(R) SBX8" by Sekisui, polyethylene powders, for example, polyethylene/acrylic acid powders, sold under the name "Flobeads(R)" by Sumitomo, silicone resin microbeads, such as those sold under the names "Tospearl(R)" by Toshiba Silicone, such as "Tospearl(R) 240A" and "Tospearl(R) 120A", acrylic polymer microspheres, such as those made of crosslinked acrylate copolymer, for example, "Polytrap 6603 Adsorber(R)" from RP Scherrer, polyurethane powders, such as the hexamethylene diisocyanate and trimethylol hexylactone copolymer powder sold under the name "Plastic Powder D-400(R)" by Toshiki, methyl acrylate and methacrylate polymer and copolymer microcapsules and vinylidene chloride and acrylonitrile copolymer microcapsules, such as "Expancel(R)" from Expancel, crosslinked organopolysiloxane elastomer powders, such as those sold under the name "Trefil Powder E-506C" by Dow Corning, and polyfluorinated powders, such as polytetrafluoroethylene powders, for example that sold under the name "MP 1400" by DuPont de Nemours.

Preferable organic particle which can be used as the additional particle in the composition of the invention can be selected from the group consisting of Methyl methacrylate crosspolymer hollow particles (ex: Covabeads: LH-85 from Sensient); Microcrystallin cellulose (ex: AVICEL PH 105 NF from FMC), Nylon (ex. Orgasol(R) 2002 D NAT COS from Arkema), Polymethylsilsesquioxane (ex. Tospearl(R) 145 A from Momentive Performance Materials) and Lauryl methacrylate/glycol dimethacrylate cross polymer (ex. Polytrap 6603 from Amcol Health & Beauty Solutions).

The amount of the organic particle in the composition of the invention may preferably be from 0.1% to 5% by weight, more preferably from 0.5% to 2% by weight, relative to the total weight of the composition.

(Inorganic Particle)

Examples of inorganic particles which can be used in the compositions according to the composition include, but are not limited to, inorganic fillers, such as talc; natural and synthetic mica; silica; kaolin or kaolin derivatives; boron nitride; precipitated calcium carbonate; magnesium carbonate; basic magnesium carbonate; and hydroxyapatite. The preferable inorganic particles are kaolin or kaolin derivatives.
Preferable inorganic particle which can be used as the additional particle in the composition of the invention can be listed below:

1. Clays such as Kaolinite (ex. kaolin supreme from Imerys),
2. Montmorillonite (ex. gel white H from Rockwood additives),
3. Bentonite (ex. Bentonite 670 NF (BC) from Brenntag),
4. Silicate (ex. Sunsphere H51 from AGC SI-TECH),
5. Magnesium Carbonate(ex. Carbonato de Magnesio, TIPO CARBOMAG EL from Buschile & Lepper),
6. Perlite (ex. OPTIMAT 2550 OR from World minerals),
7. Calcium carbonate (ex. OMYACARE EXTRA 35-OG from OMYA),
8. Talc (ex. MICRO ACE P3 from NIPPON Talc).

Kaolin or kaolin derivatives can be exemplified as the preferable inorganic particle.

The concentration of each type of the above-mentioned inorganic particle including the kaolin and kaolin derivatives in the composition of the invention may be from 0.01% to 5% by weight, preferably from 0.1 to 5% by weight, and more preferably from 0.5 to 2% by weight, and even more preferably from 0.1% to 1.5% by weight, relative to the total weight of the composition.

It is preferable that total amount of the particles (amorphous agglomerate particles and additional particles) be below 20% by weight, more preferably below 10% by weight, most preferably below 5% by weight, relative to the total weight of the composition.

(Additives)

The composition of the invention may further comprise other additives to bring freshness, cool sensation and so on. Such additives may be alcohols, glycols and active ingredients. As alcohols, ethanol (to bring freshness, cool sensation and quick evaporation) and L-menthol (to give a cooling sensation) can be exemplified. As glycols, Glycerin (to bring moisturization) can be exemplified. As active ingredients, oil control, anti-acne and anti-bacterial actives (such as salicylic acid, capryloyl glycine and capryloyl salicylic acid), Anti-inflammatory, Sun filters can be exemplified.

(Other Components)

The composition according to the present invention may also comprise water-miscible organic solvents (at room temperature: 25°C), for instance monoalcohols containing from 2 to 6 carbon atoms, such as ethanol or isopropanol; polyols especially containing from 2 to 20 carbon atoms, preferably containing from 2 to 10 carbon atoms and preferentially containing from 2 to 6 carbon atoms, such as glycerol, propylene glycol, butylene glycol, pentylene glycol, hexylene glycol, dipropylene glycol or diethylene glycol; glycol ethers (especially containing from 3 to 16 carbon atoms) such as mono-, di- or tripropylene glycol (C₃-C₄)alkyl ethers, mono-, di- or triethylene glycol (C₂-C₄)alkyl ethers, and mixtures thereof.
The composition according to the present invention may also comprise an effective amount of other ingredients which are common in cosmetic compositions, such as various common adjuvants, vitamins such as Vitamin C, anti-ageing agents, whitening agents, anti-greasy skin agents, chelating agents such as EDTA and pentasodium pentetate, UV screening agents, anti-oxidating agents such as Vitamin C and sodium metabisulfite, preserving agents such as phenoxyethanol, vitamins or provitamins, for instance, panthenol, opacifiers, fragrances, plant extracts, cationic polymers and so on.

The composition according to the present invention may also comprise stabilizers, for example sodium chloride, magnesium dichloride or magnesium sulfate.

The composition according to the present invention may also comprise any water-soluble or water-dispersible compound such as gelling agents, film-forming polymers, thickeners or surfactants, and mixtures thereof.

Preferably, the composition of the invention does not comprise polyethylene particles which are, for example, spherical or substantially spherical particles. Preferably, the composition of the invention does not comprise a water-repellant powder which can be obtained by treating a sebum-absorbing powder such as bentonite, kaolin, talc, sericite, mica, silica, silicates, zeolite and so on, with a silicone, metal soap or the like, especially, silicone treated talc.

[ Cosmetic Method or Process ]

The present invention also relates to a cosmetic method, in particular, a non-therapeutic cosmetic method for cleansing the skin, while delivering skin care benefits such as: oil control and mattifying, and preferably brightening and skin homogeneity, without the need to rinse. Each possible non-therapeutic cosmetic method includes applying the composition according to the present invention onto the skin. The composition can be applied by hand and tapped on the skin or used as a wipe of type off:

[ Preparation ]

The composition according to the present invention can be prepared by mixing the above essential and optional ingredients in accordance with a conventional process. The conventional process includes mixing with a high pressure homogenizer (a high energy process). Alternatively, the composition can be prepared by a low energy processes such as phase inversion temperature process (PIT), phase inversion concentration (PIC), autoemulsification, and the like. Preferably, the composition is prepared by a low energy process.

( Preparation of the Water Phase )

Step 1: Water, nonionic surfactant, other general components such as stabilizers and the like were put in a glass beaker and stirred until being homogenous while heating for example at 70-90°C (aqueous phase).
Step 2: Next, particle materials are added into the aqueous phase and stir while heating for example at 70-90°C for about 5-30 min (aqueous mixture).

Step 3: Let the aqueous phase mixture cool down to RT with stirring.

(Preparation of the Ethanol Phase)

Step 4: Other ingredients or additives such as Ethanol, Ssalicylic acid, L-menthol and phenoxyethanol were put in a separate beaker and stirred until being transparent at RT (ethanol phase).

Step 5: Next, add the ethanol phase to aqueous mixture containing particles and stir for 15 min at RT.

EXAMPLES

The present invention will be described in a more detailed manner by way of examples. However, these examples should not be construed as limiting the scope of the present invention.

[Examples 1 to 5 and Comparative Examples 1 to 5]

(Preparation)

The following compositions according to Examples 1 to 5 and Comparative Examples 1 to 5, shown in Table 1, were prepared by mixing the components shown in Table 1 as follows.

(Preparation of the Water Phase)

Step 1: Water; PPG-methyl glucoside; Polysorbate-80; Sodium Chloride; Di-sodium EDTA; Glycerin, Sodium Lactate and KOH were put in a glass beaker and stirred until being homogenous at 85°C (aqueous phase).

Step 2: Next, the particle blend of kaolin, methyl methacrylate crosspolymer and one of the particle materials from the group consisting of magnesium alumino silicate, silica, silica silylate, talc and perlite according to the formulas shown in Table 1 are added into the aqueous phase and stir at 85°C for 15 min (aqueous mixture).

Step 3: Let the aqueous phase mixture cool down to RT with stirring.

(Preparation of the Ethanol Phase)

Step 4: Ethanol, Ssalicylic acid, L-menthol and phenoxyethanol were put in a separate beaker and stirred until being transparent at RT (ethanol phase).

Step 5: Next, add the ethanol phase to aqueous mixture containing particles and stir for 15 min at
Formulas for the compositions of Examples and Comparative Examples are shown in Table 1.
<table>
<thead>
<tr>
<th>Example No.</th>
<th>Kaolin</th>
<th>Methyl Methacrylate Crosspolymer</th>
<th>Polyglycol (1000) methyl glucose ether</th>
<th>Polyethylene Glycol (80) (HLB 15)</th>
<th>Sodium Chloride</th>
<th>Di-sodium EDTA</th>
<th>Glycerin</th>
<th>Sodium Lactate</th>
<th>KOH</th>
<th>Ethanol</th>
<th>Salicylic acid</th>
<th>L-menthol</th>
<th>Phenoxethanol</th>
<th>Water (QS)</th>
<th>Magnesium Alumino Silicate (synthetic, amorphous)</th>
<th>Hydrated Silica (Finesil)</th>
<th>Lauryl Methacrylate/Glycid Dimethylacrylate Crosspolymer (Polynap)</th>
<th>Silica (Borosil A-730)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Table 1
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>1</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Silica (Sunsphere)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Perlite</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Kaolin</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

(units: % by weight)
Protocol for the evaluation of technical effect of said compositions

Cleansing Ability Evaluation (on forearm)

1. A 2.5 x 2.5 cm² squares suppleare (black leather) was used for the evaluation of each composition.
2. To start the testing, a baseline was measured with a portable colorimeter (ex: spectrophotometer Konica Minolta CM-700d) directly on the bare skin and (L, a, b) coordinates of the bare skin were obtained.
3. (Make-Up): 30 mg of a foundation was put on each suppleare and spread evenly within the square. A measurement was taken of the (L, a, b) of {skin + foundation} with the portable colorimeter to obtain a before cleansing value.
4. (Removing the make-up) 1 gram of the composition of one of the example 1 to 5 or comparative examples 6 to 12 was put on a cotton pad (ex. ALX, SAP code 5235101020, Alexandre Cotton N). The cotton pad is then applied and rubbed against each spot with a circular movement during 30 seconds.
5. Each triplet (L, a, b) of {skin + foundation after cleansing} was measured with the portable colorimeter after removing the foundation. Then, the cleansing ability was evaluated as follows:
6. Calculation of cleansing ability: \( \Delta E_{\text{max}} = \text{maximum value corresponding to the case where make-up is removed totally compared with the bare skin} \)
   \[
   \Delta E_{\text{max}} = \sqrt{(\Delta a_1^2 + \Delta b_1^2 + \Delta L_1^2)}
   \]
   Where, \( \Delta a_1 = \text{a bare skin} - \text{a} \{\text{skin + foundation}\} \)
   \( \Delta b_1 = \text{b bare skin} - \text{b} \{\text{skin + foundation}\} \)
   \( \Delta L_1 = \text{L bare skin} - \text{L} \{\text{skin + foundation}\} \)
   For each formula, calculations of \( \Delta E_{\text{mean}} \) were conducted for 2 spots:
   \[
   \Delta E_{\text{mean}} = \sqrt{(\Delta a_2^2 + \Delta b_2^2 + \Delta L_2^2)}
   \]
   Where, \( \Delta a_2 = \text{a cleansed skin} - \text{a} \{\text{skin + foundation}\} \)
   \( \Delta b_2 = \text{b cleansed skin} - \text{b} \{\text{skin + foundation}\} \)
   \( \Delta L_2 = \text{L cleansed skin} - \text{L} \{\text{skin + foundation}\} \)
   Finally, cleansing ability percentage (Cleansing Efficacy) was calculated by the following formula.
   \[
   \text{Clean}\\% = \frac{\Delta E_{\text{mean}}}{\Delta E_{\text{max}}} \times 100
   \]

Mattifying Effect Evaluation

Each composition was spread beforehand at room temperature on a suppleare (skin model black leather) at a rate of 2 mg/cm². The deposits are then dried at 37°C for 60 minutes. By using a goniophotometer, calibrations and light intensity measurements were performed respectively with
a matt standard plate made from barium sulfate and with the contrast card coated with the make-up base. The mattifying efficacy \( R_{\text{g, in}} \) is then evaluated from the ratio \( R \) of the specular reflection (measured at angle 30°) and the diffuse reflection (measured at angle 0°). A low value of \( R \) means a high mattifying effect. If \( R \) is inferior to 2, there is no improvement of skin aspect.

\[
R = \frac{\text{Intensity Specular reflection}(30^\circ)}{\text{Intensity Diffuse reflection}(0^\circ)}
\]

\[
R_{\text{gain}} = 100 \times \frac{R(\text{Supplare}) - R(\text{Sample})}{R(\text{ref.BaSO}_4)}
\]

The results are shown in Table 2.
<table>
<thead>
<tr>
<th>Ex.</th>
<th>Supplier of the particle material</th>
<th>Commercial name of the particle material</th>
<th>INCI name</th>
<th>Median particle size (in liquid environment)</th>
<th>Absorption oil g / particle g</th>
<th>Specific surface area BET m²/g</th>
<th>Mattifying Efficacy (%)</th>
<th>Cleansing Efficacy (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FUJI CHEMICAL</td>
<td>Neusilin UF L-2</td>
<td>MAGNESIUM ALUMINUM SILCATE</td>
<td>11.74 µm</td>
<td>2.7-3.1</td>
<td>331.1</td>
<td>67.5</td>
<td>45.3</td>
</tr>
<tr>
<td>2</td>
<td>SILICAS CORPORATION</td>
<td>Finesil X-35</td>
<td>HYDRATED SILICA</td>
<td>4.04 µm</td>
<td>4.3</td>
<td>260</td>
<td>71.5</td>
<td>68.4</td>
</tr>
<tr>
<td>3</td>
<td>AMCOL HEALTH &amp; BEAUTY SOLUTIONS</td>
<td>Polytrap 6603</td>
<td>LAURYL METHACRYLATE/GLYCOL DIMETHACRYLATE CROSS POLYMER</td>
<td>22.44 µm</td>
<td>6.0</td>
<td>7.61</td>
<td>59.7</td>
<td>46.7</td>
</tr>
<tr>
<td>4</td>
<td>EVONIK DEGUSSA</td>
<td>AEROSIL 200</td>
<td>SILICA</td>
<td>17.03 µm</td>
<td>5.6</td>
<td>200</td>
<td>41.2</td>
<td>65.3</td>
</tr>
<tr>
<td>5</td>
<td>FUJI SILYSIA</td>
<td>Sylysia-730</td>
<td>SILICA</td>
<td>5.43 µm</td>
<td>0.8</td>
<td>260</td>
<td>56.2</td>
<td>51.9</td>
</tr>
<tr>
<td>Comp. Ex.</td>
<td>supplier of the particle material</td>
<td>commercial name of the particle material</td>
<td>INCI name</td>
<td>median particle size (in liquid environment)</td>
<td>absorption oil g / particle g</td>
<td>specific surface area BET m²/g</td>
<td>Mattifying Efficacy (%)</td>
<td>Cleansing Efficacy (%)</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------</td>
<td>--------------------------------------</td>
<td>-----------</td>
<td>------------------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>--------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>1</td>
<td>NIPPON TALC</td>
<td>MICRO ACE P3</td>
<td>TALC</td>
<td>-</td>
<td>0.86</td>
<td>8.5</td>
<td>37.9</td>
<td>34.3</td>
</tr>
<tr>
<td>2</td>
<td>AGC SI-TECH</td>
<td>sunsphere h51</td>
<td>SILICA</td>
<td>-</td>
<td>1.14</td>
<td>800</td>
<td>38.2</td>
<td>32.1</td>
</tr>
<tr>
<td>3</td>
<td>WORLD MINERALS</td>
<td>optimat 2550 or</td>
<td>PERLITE</td>
<td>-</td>
<td>2.5</td>
<td>4.7</td>
<td>33.9</td>
<td>50.6</td>
</tr>
<tr>
<td>4</td>
<td>KAOLIN SUPREME LOREAL DECONTAM</td>
<td>IMERYS</td>
<td>KAOLIN</td>
<td>-</td>
<td>0.4</td>
<td>16</td>
<td>34.1</td>
<td>29.7</td>
</tr>
<tr>
<td>5</td>
<td>No particle</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>31.1</td>
<td>31.8</td>
</tr>
</tbody>
</table>
Median particle size in liquid environment was measured with Mastersizer 2000. Each particle was dispersed in the water phase in the example.

Upon focusing on the relationship of specific surface area and the mattifying and cleansing effects, in general, formulas that contain particles with specific surface areas with the range of 250 - 350 g/m² demonstrated the best mattifying and cleansing effects.

Comparing the Examples 2, 4, 5 and Comparative Example 2, which are using silica particles, the mattifying efficacies (%) are above 40% in Examples 2, 4, and 5 whereas the efficacy is 38% in Comparative Example 2. The cleansing efficacies are above 50% in Examples 2, 4 and 5 whereas the efficacy is 32% in Comparative Example 2. These results indicate that remarkable mattifying and cleansing effects can be obtained by using amorphous agglomerate silica particles in the composition.

Oil control, brightening and skin homogeneity effects were also evaluated by applying the cosmetic compositions selected from Examples 1 to 5 and Comparative Examples 1 to 5 to the skin of subjects. The cosmetic composition selected from Example 1 to 5 showed obviously superior effects for oil control, brightening and skin homogeneity than that selected from Comparative Examples 1 to 5.
CLAIMS

1. A composition comprising:
   (a) from 40 to 99%, preferably from 50 to 98%, and more preferably from 80 to 95% by
      weight of water, relative to the total weight of the composition,
   (b) at least one nonionic surfactant, and
   (c) at least one amorphous agglomerate particle.

2. The composition according to Claim 1, wherein the amorphous agglomerate particle has a
   specific surface area of from 5 to 400 m²/g, preferably from 150 to 400 m²/g, and more
   preferably from 250 to 350 m²/g.

3. The composition according to Claim 1 or 2, wherein the amorphous agglomerate particle
   has a particle size of smaller than 30μm, preferably from 1 to 25 μm, more preferably from
   2 to 12 μm, and even more preferably from 3 to 6 μm.

4. The composition according to any one of Claims 1 to 3, wherein the amorphous
   agglomerate particle is selected from the group consisting of amorphous agglomerate
   hydrated silica and amorphous agglomerate magnesium alumino silicate.

5. The composition according to Claim 4, wherein the amorphous agglomerate hydrated silica
   has a specific surface area of from 250 to 270 m²/g and/or a particle size of from 3 to 6 μm.

6. The composition according to Claim 4, wherein the amorphous agglomerate magnesium
   alumino silicate has a specific surface area of 320 - 340 m²/g and a particle size of from 10
   to 12 μm.

7. The composition according to any one of Claims 1 to 6, wherein the HLB value of the
   nonionic surfactant is more than 8, preferably more than 9, and more preferably more than
   10.

8. The composition according to any one of Claim 7, wherein the nonionic surfactant is
   selected from the group consisting of PEG-6 caprylic/capric glycerides or peg-7
   caprylic/capric glycerides, PEG-12 dimethicone, Polysorbate 80,
   PPG-6-decyltetradeceth-30 and PPG-10 methyl glucoside.

9. The composition according to any one of Claims 1 to 8, wherein the amount of the
   nonionic surfactant is from 0.005 to 20% by weight, and preferably from 0.01 to 5% by
   weight, relative to the total weight of the composition.

10. The composition according to any one of Claims 1 to 9, wherein the amount of the
    amorphous agglomerate particle is from 0.005 to 20% by weight, and preferably from 0.1
    to 5% by weight, relative to the total weight of the composition.

11. The composition according to any one of Claims 1 to 10, further comprising kaolin or
12. The composition according to Claim 11, wherein the amount of the kaolin or kaolin derivatives is from 0.1 to 5% by weight, and preferably from 0.5 to 2% by weight, relative to the total weight of the composition.

13. The composition according to any one of Claims 1t012, further comprising at least one organic polymeric particle such as methyl methacrylate cross-polymer hollow particle.

14. The composition according to Claim 13, wherein the amount of the organic polymeric particle(s) is from 0.1 to 5% by weight, and preferably from 0.5 to 2% by weight, relative to the total weight of the composition.

15. A non-therapeutic cosmetic method for cleansing and/or mattifying the skin and/or brightening the skin and/or delivering skin homogeneity, comprising applying the composition according to any one of Claims 1 to 14 on the skin.
## INTERNATIONAL SEARCH REPORT

**International application No**

PCT/JP2015/084080

### A. CLASSIFICATION OF SUBJECT MATTER

<table>
<thead>
<tr>
<th>INV.</th>
<th>A61K8/25</th>
<th>A61K8/26</th>
<th>A61Q1/14</th>
<th>A61K8/49</th>
<th>A61K8/81</th>
</tr>
</thead>
</table>

### ADD.

According to International Patent Classification (IPC) into 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

### B. FIELDS SEARCHED

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

- EPO-Internal
- WPI Data
- EMBASE

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Database access on no. 2459489 Ingredietnts and claims</td>
<td>8</td>
</tr>
<tr>
<td>Y</td>
<td>DATABASE GNPD [Online] MINTEL; October 2014 (2014-10) , Laboratorios Dermatologiques: &quot;Matti fyi ng Toner&quot; , XP002753648</td>
<td>1-7, 9, 10, 15</td>
</tr>
<tr>
<td></td>
<td>Database access on no. 2708631 Ingredietnts and claims</td>
<td>8, 11-14</td>
</tr>
</tbody>
</table>

* Further documents are listed in the continuation of Box C.

** Date of the actual completion of the international search **

3 February 2016

** Date of mailing of the international search report **

16/02/2016

** Name and mailing address of the ISA **

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk

Tel. (+31-70) 340-2040, Fax. (+31-70) 340-3016

Authorized officer

Steinhheimer, K

Form PCT/ISA2/10 (second sheet) (April 2005)
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>WO 03/054185 Al (HENKEL KGAA [DE] ; WEBER ANGRIT [DE] ; HELLEBRANDT ANGELA [DE] ; SCHMITZ) 3 July 2003 (2003-07-03) p. 89, example 7</td>
<td>1-6, 9, 10</td>
</tr>
<tr>
<td>Patent document cited in search report</td>
<td>Publication date</td>
<td>Patent family member(s)</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 1398581 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DE 60224330 T2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1277463 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FR 2827515 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 2003113073 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KR 20030009213 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2003134761 Al</td>
</tr>
<tr>
<td>WO 03054185 Al</td>
<td>03-07-2003</td>
<td>AU 2002361400 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 1606619 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DE 10162727 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1456367 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HU 0402539 A2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 2005534280 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2005003504 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 03054185 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AU 745439 B2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AU 7704398 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BR 9809970 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA 2291743 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 1264292 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CO 4940392 Al</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 0986363 A2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 2002501541 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KR 20010013376 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PE 85099 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 6210695 BI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 9855080 A2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZA 9804766 A</td>
</tr>
</tbody>
</table>