



(51) International Patent Classification:

A61K 8/60 (2006.01) A61K 8/37 (2006.01)
A61K 8/81 (2006.01) A61K 8/36 (2006.01)
A61K 8/34 (2006.01) A61Q 19/08 (2006.01)

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(21) International Application Number:

PCT/CN2022/140920

(22) International Filing Date:

22 December 2022 (22.12.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant (for all designated States except AL): L'OREAL

[FR/FR]; 14, Rue Royale, Paris 75008 (FR).

(72) Inventors; and

(71) Applicants (for AL only): TENG, Feixue [CN/CN]; 550

Jinyu Road, Pudong New Area, Shanghai 201206 (CN).

LIN, Xinrong [CN/CN]; 550 Jinyu Road, Pudong New

Area, Shanghai 201206 (CN). WENG, Xiaomin [CN/CN];

550 Jinyu Road, Pudong New Area, Shanghai 201206 (CN).

TAO, Qingsheng [CN/CN]; 550 Jinyu Road, Pudong New

Area, Shanghai 201206 (CN). YUAN, Su [CN/CN]; 550

Jinyu Road, Pudong New Area, Shanghai 201206 (CN).

(74) Agent: CHINA PATENT AGENT (H.K.) LTD.; 22/F.,

Great Eagle Center, 23 Harbor Road, Wanchai, Hong Kong (CN).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,

KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,

LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,

NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,

RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ,

TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA,

ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, CV,

GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,

SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,

RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,

DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,

LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,

(54) Title: COMPOSITION FOR CARING FOR AND/OR MAKING UP KERATIN MATERIALS

(57) Abstract: A composition, in the form of an oil-in-water emulsion for caring for and/or making up keratin materials, comprises: (i) at least one structuring agent selected from saturated C14-C22 fatty acids; (i) at least one surfactant selected from fatty acid esters; (ii) at least one surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof; (iv) at least one polymer derived from a monomer of 2-acrylamido-2- methylpropanesulfonic acid; and (v) at least one C-glycoside.

WO 2024/130622 A1

COMPOSITION FOR CARING FOR AND/OR MAKING UP KERATIN MATERIALS

TECHNICAL FIELD

The present invention relates to a cosmetic composition. In particular, the present invention relates to a composition for caring for and/or making up keratin materials. The present invention also relates to a non-therapeutic method for caring for and/or making up keratin materials.

BACKGROUND ART

The skin is the protective barrier for the human body. It protects the interior of the body from physical injury (such as trauma) and biological injury (such as bacteria, viruses or fungi).

The development of formulations dedicated to caring for and/or making up the skin and/or lips, is permanent.

It is common to incorporate in cosmetic products anti-aging agents which can promote collagen synthesis, for example hydroxypropyl tetrahydropyrantriol.

Efforts have been made to develop a cream product with high potency on anti-aging and luxury sensory for consumers. High potency can be provided by high dosage of anti-aging agents such as hydroxypropyl tetrahydropyrantriol, and luxury sensory includes high consistency, easy spreading quick penetration, and non-sticky finish, and can be provided by lamellar structure. When using high dosage of hydroxypropyl tetrahydropyrantriol in lamellar structure, liquid leakage would happen at room temperature and 37°C.

As a commercial product, it is desired that the product is stable at room temperature (for example, 25°C) and 37°C.

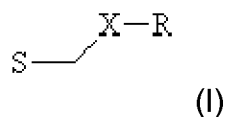
Hence, there is a need to formulate a composition for caring for and/or making up the skin comprising at least one anti-aging agent such as hydroxypropyl tetrahydropyrantriol, which is stable at both room temperature (for example, 25 °C) and 37°C for a relatively longer period.

SUMMARY OF THE INVENTION

The inventors have now discovered that it is possible to formulate such compositions being stable at both room temperature (for example, 25 °C) and 37°C for a relatively longer period.

Accordingly, in a first aspect, the present invention provides a composition in the form of an oil-in-water emulsion for caring for and/or making up keratin materials, comprising:

- (i) at least one structuring agent selected from saturated C12-C22 fatty acids;
- (ii) at least one surfactant selected from fatty acid esters;
- (iii) at least one surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof;
- (iv) at least one polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid (abbreviated as “AMPS® polymer” hereafter); and
- (v) at least one C-glycoside selected from compounds of formula (I):



in which:

- R represents a saturated C₁ to C₁₀, in particular C₁ to C₄, alkyl radical which can optionally be substituted by at least one radical selected from OH, COOH or COOR^{"2}, with R^{"2} being a saturated C₁-C₄ alkyl radical,

- S represents a monosaccharide or a polysaccharide comprising up to 20 sugar units, in particular up to 6 sugar units, in pyranose and/or furanose form and of the L and/or D series, it being possible for the said monosaccharide or polysaccharide to be substituted by a hydroxyl group which is necessarily free and optionally one or more optionally protected amine functional group(s), and

- X represents a radical selected from the -CO-, -CH(OH)-, -CH(NH₂)-, -CH(NHCH₂CH₂CH₂OH)-, -CH(NHPh)- and -CH(CH₃)- groups and in particular a -CO-, -CH(OH)- or -CH(NH₂)- radical and more particularly a -CH(OH)- radical,

the S-CH₂-X bond represents a bond of C-anomeric nature, which can be α or β,

and also their physiologically acceptable salts, their solvates, such as the hydrates, and their optical and geometrical isomers.

The composition of the present invention is in the form of an oil-in-water emulsion. Thus, said composition comprises a continuous aqueous phase and a dispersed fatty phase.

The inventors found that the composition of the present invention is stable at both room temperature (for example, 25 °C) and 37 °C for a relatively longer period, for example for one month, even for two months.

In a second aspect, the present invention provides a non-therapeutic method for caring for and/or making up keratin materials, comprising applying the composition according to the first aspect of the present invention to the keratin materials.

Other advantages of the present invention will emerge more clearly on reading the description and the examples that follow.

DETAILED DESCRIPTION OF THE INVENTION

Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by those skilled in the art the present invention belongs to. When the definition of a term in the present description conflicts with the meaning as commonly understood by those skilled in the art the present invention belongs to, the definition described herein shall apply.

In that which follows and unless otherwise indicated, the limits of a range of values are included within this range, in particular in the expressions "between ... and..." and "from ... to ...".

Moreover, the expression "at least one" used in the present description is equivalent to the expression "one or more".

Throughout the instant application, the term "comprising" is to be interpreted as encompassing all specifically mentioned features as well as optional, additional, unspecified ones. As used herein, the use of the term "comprising" also discloses the embodiment wherein no features other than the specifically mentioned features are present (*i.e.* "consisting of").

Unless otherwise specified, all numerical values expressing amount of ingredients and the like which are used in the description and claims are to be understood as being modified by the term "about". Accordingly, unless indicated to

the contrary, the numerical values and parameters described herein are approximate values which are capable of being changed according to the desired purpose as required.

For the purposes of the present invention, the term “keratin materials” is intended to cover human skin, mucous membranes such as the lips. Facial skin is most particularly considered according to the present invention.

All percentages in the present invention refer to weight percentage, unless otherwise specified.

According to the first aspect, the present invention provides a composition in the form of an oil-in-water emulsion for caring for and/or making up keratin materials, comprising:

- (i) at least one structuring agent selected from saturated C12-C22 fatty acids;
- (ii) at least one surfactant selected from fatty acid esters;
- (iii) at least one surfactant selected from fatty alcohol, alkylglucoside, and combinations thereof;
- (iv) at least one polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid; and
- (v) at least one C-glycoside.

Structuring agents

According to the first aspect, the composition of the present invention comprises at least one structuring agent selected from saturated C12-C22 fatty acids.

As examples of saturated C12-C22 fatty acid, mention can be made of myristic acid, pentadecanoic acid, palmitic acid, heptadecanoic acid, stearic acid, cetearyl acid, arachidic acid, behenic acid, and a combination thereof.

Preferably, the structuring agent is selected from saturated C14-C18 fatty acids.

More preferably, the structuring agent is selected from linear and saturated C14-C18 fatty acids.

Particularly preferably, the structuring agent is selected from myristic acid, palmitic acid, stearic acid, and a combination thereof.

Advantageously, the structuring agent is present in an amount ranging from 0.5 wt.% to 30 wt.%, preferably from 1 wt.% to 20 wt.%, more preferably from 1.5 wt.% to 7 wt.%, relative to the total weight of the composition.

Surfactants selected from fatty acid esters

According to the first aspect, the composition of the present invention comprises at least one surfactant selected from fatty acid esters.

Preferably, the surfactant is selected from

- mono and polyglyceryl esters of a fatty acid or their ethoxylated derivatives;
- sorbitol esters of C8-C24 fatty acids and polyoxyalkylenated derivatives thereof;
- esters of fatty acids and glucose or alkylglucose or their ethoxylated derivatives;
- sucrose esters of a fatty acid;
- fatty acid ester of polyalkylene glycol; and
- mixtures thereof.

As polyglyceryl esters of (a) fatty acid(s), mention be made of the product containing 2 to 10 glycerol units, such as polyglyceryl monolaurate, oleate, myristate, caprylate, or stearate comprising 2 to 10 glycerol units, polyglyceryl mono(iso)stearate comprising 2 to 10 glycerol units, polyglyceryl dioleate comprising 2 to 10 glycerol units, polyglyceryl dilaurate comprising 2 to 10 glycerol units, polyglyceryl dimyristate comprising 2 to 10 glycerol units, polyglyceryl trimyristate comprising 2 to 10 glycerol units, polyglyceryl trioleate comprising 2 to 10 glycerol units, and polyglyceryl tricaprylate comprising 2 to 10 glycerol units.

Polyglyceryl esters include, polyglyceryl esters of C16-C22 saturated, unsaturated and branched chain fatty acids, such as polyglyceryl-4 isostearate, polyglyceryl-3 oleate, polyglyceryl-2 oleate, polyglyceryl-2 sesquioleate, triglyceryl diisostearate, diglyceryl monooleate, tetraglyceryl monooleate, or mixtures thereof.

Monoglyceryl esters include, but are not limited to, glyceryl monoesters, preferably glyceryl monoesters of C16-C22 saturated, unsaturated and branched chain fatty acids such as glyceryl oleate, glyceryl monostearate, glyceryl

monoisostearate, glyceryl monopalmitate, glyceryl monobehenate, or mixtures thereof.

As mono glyceryl esters of fatty acids, glyceryl stearate (glyceryl mono-, di- and/or tristearate) (CTFA name: glyceryl stearate) or glyceryl ricinoleate or mixtures thereof can be cited, or 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 polyoxyethylenated glyceryl stearate (mono-, di- and/or tristearate), such as PEG-20 glyceryl stearate (mono-, di-, tristearate and/or triisostearate) can be cited. Preferably, the polyoxyalkylenated derivative of mono glyceryl ester of fatty acids includes 10 to 40 oxyethylene units, such as PEG-20 glyceryl triisostearate.

The sorbitol esters of C8-C24 fatty acids and polyoxyalkylenated derivatives thereof can be selected from sorbitan palmitate, sorbitan isostearate, sorbitan trioleate and esters of fatty acids and alkoxyated 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, or sorbitan tristearate 20 EO (CTFA name: polysorbate 65), sold by the company ICI under the name Tween 65, 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 sesquistearamates such as methylglucose sesquistearamate, 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 methylglucose 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 methylglucose 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 Grillocoese PSE-20 by GOLDSCHMIDT, or mixtures thereof, can for example be cited.

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

Preferably, the fatty acid ester of polyalkylene glycol is an ester of polyethylene glycol comprising from 1 to 200 oxyethylene groups and of a saturated or unsaturated fatty acid comprising from 12 to 30 carbon atoms, more preferably, the fatty acid ester of polyalkylene glycol is selected from polyethylene glycol 2 OE monostearate or polyethylene glycol 100 monostearate (PEG-100 stearate).

Preferably, the surfactant is selected from mono- and polyglyceryl esters of a fatty acid, fatty acid esters of polyalkylene glycol, and mixtures thereof.

More preferably, the surfactant is selected from mono glyceryl esters or poly glyceryl esters of a C8-C24, preferably C12-C22, fatty acid and polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200, or more preferably from 10 to 100 oxyalkylene units; sorbitol esters of a C8-C24, preferably C12-C22, fatty acid or polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200, or more preferably from 10 to 100 oxyalkylene units; sugar (sucrose, maltose, glucose, fructose, and/or alkylglucose) esters of a C8-C24, preferably C12-C22, fatty acid or polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200, or more preferably from 10 to 100 oxyalkylene units; or mixtures thereof.

Even more preferably, the surfactant is selected from glyceryl stearate, PEG-100 stearate, and mixtures thereof.

Mixtures of the surfactant selected from mono- and polyglyceryl esters of a fatty acid, are for example the product containing glyceryl stearate and PEG-100 stearate, marketed under the name ARLACEL 165 by CRODA, 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.

Advantageously, the surfactant selected from fatty acid esters is present in an amount ranging from 0.2 wt.% to 20 wt.%, preferably from 0.4 wt.% to 15 wt.%, more preferably from 0.8 wt.% to 12 wt.%, relative to the total weight of the composition.

Surfactants selected from fatty alcohols, alkylglucosides, and combinations thereof

According to the first aspect, the composition of the present invention comprises at least one surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof.

Preferably, the surfactant is selected from

- ethers of a sugar and of C₈-C₂₄ fatty alcohols, such as caprylyl/capryl glucoside;
- C₁₄-C₂₄ fatty alcohols; and
- mixtures thereof.

As sugar ethers, alkylpolyglucosides can be used, and for example, ethers of a sugar and of C₈-C₂₄ fatty alcohols including 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 ORAMIX 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, or mixtures thereof can in particular be cited.

As C14-C24 fatty alcohols, mention can be made of oleyl alcohol, stearyl alcohol, cetyl alcohol, behenyl alcohol, arachidyl alcohol, lignocerylic alcohol and mixtures thereof.

Preferably, the surfactant is selected from ethers of glucoside and a C12-C22 fatty alcohol; C14-C22 fatty alcohols; or combinations thereof.

More preferably, the surfactant is selected from ethers of glucoside and a C12-C22 fatty alcohol; C16-C22 fatty alcohols; or combinations thereof.

Advantageously, the surfactant is selected from arachidyl alcohol, behenyl alcohol, oleyl alcohol, arachidyl glucoside, and mixtures thereof.

In a preferred embodiment, the surfactant is selected from arachidyl alcohol, behenyl alcohol, and arachidyl glucoside.

Advantageously, the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is present in an amount ranging from 0.2 wt.% to 12 wt.%, preferably from 0.4 wt.% to 8 wt.%, more preferably from 0.6 wt.% to 3.5 wt.%, relative to the total weight of the composition.

Advantageously, the weight ratio of the structuring agent selected from saturated C12-C22 fatty acids to the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is less than 2.5, preferably less than 1.8.

AMPS® Polymer(s)

According to the first aspect, the composition of the present invention comprises at least one polymer derived from at least one monomer being acrylamido-2-methylpropanesulfonic acid (AMPS®) (or AMPS® polymer).

In particular, the AMPS[®] polymers in accordance with the invention are crosslinked or non-crosslinked homopolymers or copolymers comprising at least the acrylamido-2-methylpropanesulfonic acid (AMPS[®]) monomer, in a form partially or totally neutralized with a mineral base other than ammonia, such as sodium hydroxide or potassium hydroxide.

They are preferably totally neutralized or virtually totally neutralized, i.e. at least 90% neutralized.

These AMPS[®] polymers according to the invention may be crosslinked or non-crosslinked.

When the polymers are crosslinked, the crosslinking agents may be chosen from the polyolefinically unsaturated compounds commonly used for the crosslinking of polymers obtained by free-radical polymerization.

Examples of crosslinking agents that may be mentioned include divinylbenzene, diallyl ether, dipropylene glycol diallyl ether, polyglycol diallyl ethers, triethylene glycol divinyl ether, hydroquinone diallyl ether, ethylene glycol or tetraethylene glycol di(meth)acrylate, trimethylolpropane triacrylate, methylenebisacrylamide, methylenebismethacrylamide, triallylamine, triallyl cyanurate, diallyl maleate, tetraallylethylenediamine, tetraallyloxyethane, trimethylolpropane diallyl ether, allyl (meth)acrylate, allylic ethers of alcohols of the sugar series, or other allylic or vinyl ethers of polyfunctional alcohols, and also allylic esters of phosphoric and/or vinylphosphonic acid derivatives, or mixtures of these compounds.

According to one embodiment of the invention, the crosslinking agent is chosen from methylenebis-acrylamide, allyl methacrylate and trimethylolpropane triacrylate (TMPTA). The degree of crosslinking generally ranges from 0.01 mol% to 10 mol% and more particularly from 0.2 mol% to 2 mol% relative to the polymer.

The AMPS[®] polymers in accordance with the invention are water-soluble or water-dispersible. In this case they are:

- either "homopolymers" comprising only AMPS[®] monomers and, if they are crosslinked, one or more crosslinking agents such as those defined above;

- or copolymers obtained from AMPS[®] and from one or more hydrophilic or hydrophobic ethylenically unsaturated monomers and, if they are crosslinked, one or more crosslinking agents such as those defined above. When the said copolymers comprise hydrophobic ethylenically unsaturated monomers, these monomers do not comprise a fatty chain and are preferably present in small amounts.

For the purposes of the present invention, the term "fatty chain" means any hydrocarbon-based chain containing at least 7 carbon atoms.

The term "water-soluble or water-dispersible" means polymers which, when introduced into an aqueous phase at 25°C, to a mass concentration equal to 1%, make it possible to obtain a macroscopically homogeneous and transparent solution, i.e. a solution that has a maximum light transmittance value, at a wavelength equal to 500 nm, through a sample 1 cm thick, of at least 60% and preferably of at least 70%.

The "homopolymers" according to the invention are preferably crosslinked and neutralized, and they may be obtained according to the preparation process comprising the following steps:

(a) the monomer such as AMPS[®] in free form is dispersed or dissolved in a solution of tert-butanol or of water and tert-butanol;

(b) the solution or dispersion of monomer obtained in (a) is neutralized with one or more mineral or organic bases, preferably ammonia NH₃, in an amount making it possible to obtain a degree of neutralization of the sulfonic acid functions of the polymer ranging from 90% to 100%;

(c) the crosslinking monomer(s) is(are) added to the solution or dispersion obtained in (b);

(d) a standard free-radical polymerization is performed in the presence of free-radical initiators at a temperature ranging from 10 to 150°C; the polymer precipitates in the solution or dispersion based on tert-butanol.

The AMPS[®] homopolymers according to the invention are preferably optionally crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid homopolymers, for instance the poly(2-acrylamido-2-methylpropanesulfonic acid) sold by the company Clariant under

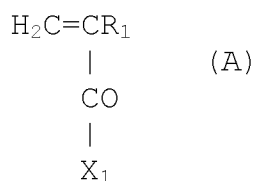
the name Hostacerin AMPS® (CTFA name: ammonium polyacryldimethyltauramide).

The water-soluble or water-dispersible AMPS copolymers according to the invention contain preferably water-soluble ethylenically unsaturated monomers, hydrophobic monomers or mixtures thereof.

The water-soluble comonomers may be ionic or nonionic.

Among the ionic water-soluble comonomers, examples that may be mentioned include the following compounds and the salts thereof:

- (meth)acrylic acid,
- styrenesulfonic acid,
- vinylsulfonic acid and (meth)allylsulfonic acid,
- vinylphosphonic acid,
- maleic acid,
- itaconic acid,
- crotonic acid,
- the water-soluble vinyl monomers of formula (A) below:



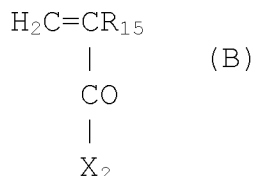
in which:

- R_1 is chosen from H, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$ and $-\text{C}_3\text{H}_7$
- X_1 is chosen from:
 - alkyl ethers of $-\text{OR}_2$ type in which R_2 is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbon atoms, substituted with at least one sulfonic ($-\text{SO}_3^-$) and/or sulfate ($-\text{SO}_4^-$) and/or phosphate ($-\text{PO}_4\text{H}_2^-$) group.

Among the nonionic water-soluble comonomers, examples that may be mentioned include:

- (meth)acrylamide,
- N-vinylacetamide and N-methyl-N-vinylacetamide,
- N-vinylformamide and N-methyl-N-vinylformamide,
- maleic anhydride,

- vinylamine,
- N-vinyl lactams comprising a cyclic alkyl group containing 4 to 9 carbon atoms, such as n-vinylpyrrolidone, N-butyrolactam and N-vinylcaprolactam,
- vinyl alcohol of formula $\text{CH}_2=\text{CHOH}$,
- the water-soluble vinyl monomers of formula (B) below:



in which:

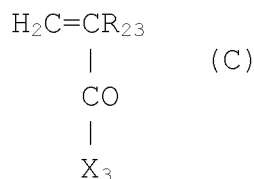
- R_{15} is chosen from H, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$ and $-\text{C}_3\text{H}_7$
- X_2 is chosen from:
- alkyl ethers of $-\text{OR}_{16}$ type in which R_{16} is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, optionally substituted with a halogen atom (iodine, bromine, chlorine or fluorine); a hydroxyl group ($-\text{OH}$); ether.

Mention is made, for example, of glycidyl (meth)acrylate, hydroxyethyl methacrylate and (meth)acrylates of ethylene glycol, of diethylene glycol or of polyalkylene glycol.

Among the fatty-chain-free hydrophobic comonomers, examples that may be mentioned include:

- styrene and its derivatives, such as 4-butylstyrene, α -methylstyrene and vinyltoluene,
- vinyl acetate of formula $\text{CH}_2=\text{CH}-\text{OCOCH}_3$;
- vinyl ethers of formula $\text{CH}_2=\text{CHOR}$ in which R is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons;
- acrylonitrile,
- caprolactone,
- vinyl chloride and vinylidene chloride,
- silicone derivatives, which lead to silicone polymers after polymerization, such as methacryloxypropyltris(trimethylsiloxy)silane and silicone methacrylamides,

- the hydrophobic vinyl monomers of formula (C) below:



in which:

- R_{23} is chosen from H, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$ and $-\text{C}_3\text{H}_7$
- X_3 is chosen from:
- alkyl ethers of $-\text{OR}_{24}$ type in which R_{24} is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbon atoms.

Mention is made, for example, of methyl methacrylate, ethyl methacrylate, n-butyl (meth)acrylate, tert-butyl (meth)acrylate, cyclohexyl acrylate and isobornyl acrylate and 2-ethylhexyl acrylate.

The water-soluble or water-dispersible AMPS[®] polymers of the invention preferably have a molar mass ranging from 50 000 g/mol to 10 000 000 g/mol, preferably from 80 000 g/mol to 8 000 000 g/mol and even more preferably from 100 000 g/mol to 7 000 000 g/mol.

Examples of water-soluble or water-dispersible AMPS homopolymers in accordance with the invention that may be mentioned include crosslinked or non-crosslinked polymers of sodium acrylamido-2-methylpropanesulfonate, such as the polymer used in the commercial product Simulgel[™] 800 (CTFA name: Sodium Polyacryloyldimethyltaurate).

Examples of water-soluble or water-dispersible AMPS copolymers in accordance with the invention that may be mentioned include:

- acrylamide/sodium acrylamido-2-methylpropanesulfonate crosslinked copolymers, such as the copolymer used in the commercial product Sepigel 305 (CTFA name: Polyacrylamide/ C_{13} - C_{14} Isoparaffin/Laureth-7) or the copolymer used in the commercial product sold under the trade name Simulgel[™] 600 (CTFA name: Acrylamide/Sodium Acryloyldimethyltaurate/Isohexadecane/Polysorbate-80) by the company SEPPIC;
- copolymers of AMPS and of vinylpyrrolidone or of vinylformamide, such as the copolymer used in the commercial product sold under the name

Aristoflex AVC by the company Clariant (CTFA name: Ammonium Acryloyldimethyltaurate/VP Copolymer) but neutralized with sodium hydroxide or potassium hydroxide;

- copolymers of AMPS and of sodium acrylate, for instance

AMPS/sodium acrylate copolymer such as the copolymer used in the commercial product sold under the name Simulgel™ EG by the company SEPPIC (CTFA name: Acrylamide/Sodium

Acryloyldimethyltaurate/Isohexadecane/Polysorbate-80);

- copolymers of AMPS and of hydroxyethyl acrylate, for instance

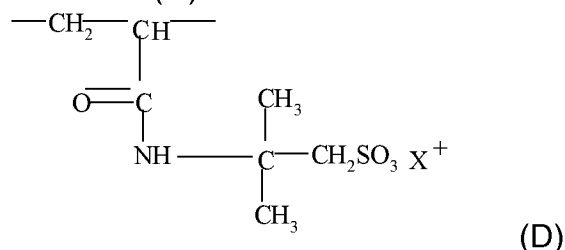
AMPS/hydroxyethyl acrylate copolymer, such as the copolymer used in the commercial product sold under the name Simulgel™ NS by the company SEPPIC (CTFA name: Hydroxyethyl acrylate/Sodium Acryloyldimethyltaurate copolymer (and) Squalane (and) Polysorbate-60).

The preferred polymers are more particularly sodium acrylamido-2-methylpropanesulfonate homopolymers, such as the homopolymer used in the commercial product Sepigel™ 800, and AMPS®/hydroxyethyl acrylate copolymers, such as the copolymer used in the commercial product sold under the name Simulgel NS.

According to one particularly preferred form of the invention, the AMPS® polymer or copolymer will be used in powder form.

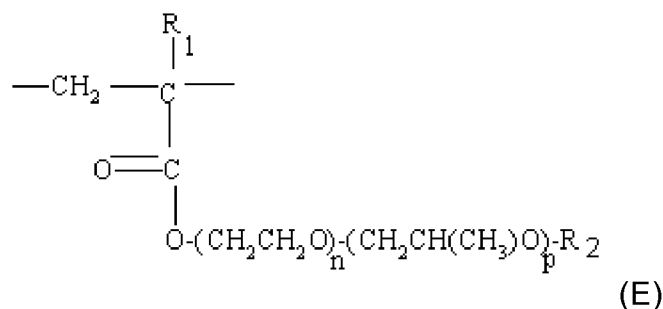
The polymers derived from AMPS may further be those comprising:

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



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

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



in which n and p, independently of each other, denote a number of moles and ranges from 0 to 30 and preferably from 1 to 20, with the proviso that n + p is less than or equal to 30, preferably less than 25 and better still less than 20; R₁ denotes a hydrogen atom or a linear or branched C₁-C₆ alkyl radical (preferably methyl) and R₂ denotes a linear or branched alkyl comprising m carbon atoms, with m ranging from 6 to 30 and preferably from 10 to 25.

These polymers according to the invention may be obtained according to the standard free-radical polymerization processes in the presence of one or more initiators such as, for example, azobisisobutyronitrile (AIBN), azobisdimethylvaleronitrile, 2,2-azobis[2-amidinopropane] hydrochloride (ABAH = 2,2-azoBis-[2-Amidinopropane] hydrochloride), organic peroxides such as dilauryl peroxide, benzoyl peroxide, tert-butyl hydroperoxide, etc., mineral peroxide compounds such as potassium persulfate or ammonium persulfate, or H₂O₂ optionally in the presence of reducing agents.

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

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

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

- of a C₁₀-C₁₈ alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol C-080® from the company Clariant),

- of a C₁₁ oxo alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol UD-080® from the company Clariant),
- of a C₁₁ oxo alcohol oxyethylenated with 7 mol of ethylene oxide (Genapol UD-070® from the company Clariant),
- of a C₁₂-C₁₄ alcohol oxyethylenated with 7 mol of ethylene oxide (Genapol LA-070® from the company Clariant),
- of a C₁₂-C₁₄ alcohol oxyethylenated with 9 mol of ethylene oxide (Genapol LA-090® from the company Clariant),
- of a C₁₂-C₁₄ alcohol oxyethylenated with 11 mol of ethylene oxide (Genapol LA-110® from the company Clariant),
- of a C₁₆-C₁₈ alcohol oxyethylenated with 8 mol of ethylene oxide (Genapol T-080® from the company Clariant),
- of a C₁₆-C₁₈ alcohol oxyethylenated with 11 mol of ethylene oxide (Genapol T-110® from the company Clariant),
- of a C₁₆-C₁₈ alcohol oxyethylenated with 15 mol of ethylene oxide (Genapol T-150® from the company Clariant),
- of a C₁₆-C₁₈ alcohol oxyethylenated with 20 mol of ethylene oxide (Genapol T-200® from the company Clariant),
- of a C₁₆-C₁₈ alcohol oxyethylenated with 25 mol of ethylene oxide (Genapol T-250® from the company Clariant),
- of a C₁₈-C₂₂ alcohol oxyethylenated with 25 mol of ethylene oxide,
- of a C₁₆-C₁₈ iso-alcohol oxyethylenated with 25 mol of ethylene oxide.

According to one preferred embodiment, the polymer is a copolymer of AMPS® and of a C₁₆-C₁₈ alcohol methacrylate comprising from 6 to 25 mol of oxyethylene groups, obtained from methacrylic acid or a methacrylic acid salt and from a C₁₆-C₁₈ alcohol oxyethylenated with 6 to 25 mol of ethylene oxide.

The polymer may also be a copolymer of AMPS® and of a C₁₂-C₁₄ alcohol methacrylate comprising from 6 to 25 mol of oxyethylene groups, obtained from methacrylic acid or a methacrylic acid salt and from a C₁₂-C₁₄ alcohol oxyethylenated with 6 to 25 mol of ethylene oxide.

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

- the non-crosslinked copolymer obtained from 92.65 mol% of AMPS[®] and 7.35 mol% of a C₁₆-C₁₈ alcohol methacrylate comprising 8 oxyethylene groups (Genapol T-080[®]),
- the non-crosslinked copolymer obtained from 91.5 mol% of AMPS[®] and 8.5 mol% of a C₁₂-C₁₄ alcohol methacrylate comprising 7 oxyethylene groups (Genapol LA-070[®]),
- the crosslinked copolymer obtained from 96.45 mol% of AMPS[®] and 3.55 mol% of a C₁₆-C₁₈ alcohol methacrylate comprising 25 oxyethylene groups (Genapol T-250[®]), the crosslinking agent is trimethylolpropane triacrylate,
- the crosslinked copolymer obtained from AMPS[®] and from a C₂₂ alcohol methacrylate comprising 25 oxyethylene groups; this polymer is sold under the name Aristoflex HMB[®] by the company Clariant,
- the acrylamide/sodium 2-methyl-2-[(1-oxo-2-propenyl)amino] -1-propanesulfonate (AMPS[®]) copolymer such as Simulgel 600[®] in the form of an emulsion containing polysorbate 80 as surfactant and containing isohexadecane as fatty phase, sold by the company SEPPIC, or alternatively Simulgel EG[®], Simulgel A[®] and Simulgel 501[®] sold by the same company.

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

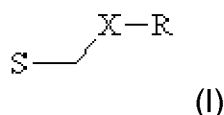
For the purpose of the present invention, the preferred polymers derived from AMPS[®] is a crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid homopolymers, for instance the poly(2-acrylamido-2-methylpropanesulfonic acid) sold by the company Clariant under the name Hostacerin AMPS[®] (CTFA name: ammonium polyacryldimethyltauramide).

Advantageously, the polymer derived from at least one monomer of 2-acrylamido-2-methylpropanesulfonic acid is present in the composition according

to the present invention in an amount ranging from 0.05 wt.% to 10 wt.%, preferably from 0.08 wt.% to 8 wt.%, more preferably from 0.1 wt.% to 2 wt.%, relative to the total weight of the composition.

C-glycosides

According to the first aspect, the composition of the present invention comprises at least one C-glycoside selected from compounds of formula (I):



in which:

- R represents a saturated C₁ to C₁₀, in particular C₁ to C₄, alkyl radical which can optionally be substituted by at least one radical selected from OH, COOH or COOR"₂, with R"₂ being a saturated C₁-C₄ alkyl radical,
 - S represents a monosaccharide or a polysaccharide comprising up to 20 sugar units, in particular up to 6 sugar units, in pyranose and/or furanose form and of the L and/or D series, it being possible for the said monosaccharide or polysaccharide to be substituted by a hydroxyl group which is necessarily free and optionally one or more optionally protected amine functional group(s), and
 - X represents a radical selected from the -CO-, -CH(OH)-, -CH(NH₂)-, -CH(NHCH₂CH₂CH₂OH)-, -CH(NHPh)- and -CH(CH₃)- groups and in particular a -CO-, -CH(OH)- or -CH(NH₂)- radical and more particularly a -CH(OH)- radical,
- the S-CH₂-X bond represents a bond of C-anomeric nature, which can be α or β,

and also their physiologically acceptable salts, their solvates, such as the hydrates, and their optical and geometrical isomers.

The C-glycoside of use for the implementation of the invention are in particular those for which R denotes a saturated linear C₁ to C₆, in particular C₁ to C₄, preferentially C₁ to C₂, alkyl radical and more preferably a methyl radical.

Mention may in particular be made, among the alkyl groups suitable for the implementation of the invention, of the methyl, ethyl, isopropyl, n-propyl, n-butyl, t-butyl, isobutyl, sec-butyl, pentyl, n-hexyl, cyclopropyl, cyclopentyl or cyclohexyl groups.

According to one embodiment of the invention, use may be made of a C-glycoside corresponding to the formula (I) for which S can represent a monosaccharide or a polysaccharide comprising up to 6 sugar units, in pyranose and/or furanose form and of L and/or D series, the said mono- or polysaccharide exhibiting at least one necessarily free hydroxyl functional group and/or optionally one or more necessarily protected amine functional groups, X and R otherwise retaining all of the definitions given above.

Advantageously, a monosaccharide of the invention can be selected from D-glucose, D-galactose, D-mannose, D-xylose, D-lyxose or L-fucose, L-arabinose, L-rhamnose, D-glucuronic acid, D-galacturonic acid, D-iduronic acid, N-acetyl-D-glucosamine or N-acetyl-D-galactosamine and advantageously denotes D-glucose, D-xylose, N-acetyl-D-glucosamine or L-fucose and in particular D-xylose.

More particularly, a polysaccharide of the invention comprising up to 6 sugar units can be selected from D-maltose, D-lactose, D-cellobiose, D-maltotriose, a disaccharide combining a uronic acid selected from D-iduronic acid or D-glucuronic acid with a hexosamine selected from D-galactosamine, D-glucosamine, N-acetyl-D-galactosamine or N-acetyl-D-glucosamine, an oligosaccharide comprising at least one xylose which can advantageously be selected from xylobiose, methyl- β -xylobioside, xylotriose, xylotetraose, xylopentaose and xylohexaose and in particular xylobiose, which is composed of two xylose molecules linked via a 1-4 bond.

More particularly, S can represent a monosaccharide selected from D-glucose, D-xylose, L-fucose, D-galactose or D-maltose and in particular D-xylose.

Preferably, use is made of a C-glycoside of formula (I) for which:

- R denotes an unsubstituted linear C₁-C₄, in particular C₁-C₂, alkyl radical, especially a methyl radical;

- S represents a monosaccharide as described above and selected in particular from D-glucose, D-xylose, N-acetyl-D-glucosamine or L-fucose, and in particular D-xylose;

- X represents a group selected from -CO-, -CH(OH)- or -CH(NH₂)- and preferably a -CH(OH)- group.

The acceptable salts of the compounds described in the present invention comprise conventional non-toxic salts of the said compounds, such as those formed from organic or inorganic acids. Mention may be made, by way of example, of the salts of inorganic acids, such as sulfuric acid, hydrochloric acid. Mention may also be made of the salts of organic acids, which can comprise one or more carboxylic, sulfonic or phosphonic acid groups. Mention may in particular be made of propionic acid, acetic acid, terephthalic acid, citric acid and tartaric acid.

When the compound of formula (I) comprises an acid group, neutralization of the acid group(s) can be carried out with an inorganic base, such as LiOH, NaOH, KOH, Ca(OH)₂, NH₄OH, Mg(OH)₂ or Zn(OH)₂, or with an organic base, such as a primary, secondary or tertiary alkylamine, for example triethylamine or butylamine. This primary, secondary or tertiary alkylamine can comprise one or more nitrogen and/or oxygen atoms and can thus comprise, for example, one or more alcohol functional groups; mention may in particular be made of 2-amino-2-methylpropanol, triethanolamine, 2-(dimethylamino)propanol or 2-amino-2-(hydroxymethyl)-1,3-propanediol. Mention may also be made of lysine or 3-(dimethylamino)propylamine.

The solvates which are acceptable for the compounds described in the present invention comprise conventional solvates, such as those formed during the final stage of preparation of the said compounds due to the presence of solvents. Mention may be made, by way of example, of the solvates due to the presence of water or of linear or branched alcohols, such as ethanol or isopropanol.

Of course, according to the invention, a C-glycoside corresponding to the formula (I) can be used alone or as a mixture with other C-glycoside and in any proportion.

A C-glycoside which is suitable for the invention can in particular be obtained by the synthetic method described in the document WO 02/051828.

Mention may in particular be made, by way of non-limiting illustration of the C-glycoside compounds which are particularly suitable for the invention, of the following compounds:

- C-β-D-xylopyranoside-n-propane-2-one,
- C-α-D-xylopyranoside-n-propan-2-one,

- C- β -D-xylopyranoside-2-hydroxypropane,
- C- α -D-xylopyranoside-2-hydroxypropane,
- 1-(C- β -D-fucopyranoside)propan-2-one,
- 1-(C- α -D-fucopyranoside)propan-2-one,
- 1-(C- β -L-fucopyranoside)propan-2-one,
- 1-(C- α -L-fucopyranoside)propan-2-one,
- 1-(C- β -D-fucopyranoside)-2-hydroxypropane,
- 1-(C- α -D-fucopyranoside)-2-hydroxypropane,
- 1-(C- β -L-fucopyranoside)-2-hydroxypropane,
- 1-(C- α -L-fucopyranoside)-2-hydroxypropane,
- 1-(C- β -D-glucopyranosyl)-2-hydroxypropane,
- 1-(C- α -D-glucopyranosyl)-2-hydroxypropane,
- 1-(C- β -D-galactopyranosyl)-2-hydroxypropane,
- 1-(C- α -D-galactopyranosyl)-2-hydroxypropane,
- 1-(C- β -D-fucofuranosyl)propan-2-one,
- 1-(C- α -D-fucofuranosyl)propan-2-one,
- 1-(C- β -L-fucofuranosyl)propan-2-one,
- 1-(C- α -L-fucofuranosyl)propan-2-one,
- C- β -D-maltopyranoside-n-propane-2-one,
- C- α -D-maltopyranoside-n-propan-2-one,
- C- β -D-maltopyranoside-2-hydroxypropane,
- C- α -D-maltopyranoside-2-hydroxypropane, their isomers and their mixtures.

According to one embodiment, C- β -D-xylopyranoside-2-hydroxypropane or C- α -D-xylopyranoside-2-hydroxypropane and better still C- β -D-xylopyranoside-2-hydroxypropane can advantageously be used for the preparation of a composition according to the invention.

According to a specific embodiment, the C-glycoside can be C- β -D-xylopyranoside-2-hydroxypropane (or hydroxypropyl tetrahydropyrantriol) provided in the form of a solution containing 75% by weight of active material in water and propylene glycol.

Advantageously, the C-glycoside is present in the composition in an amount ranging from 3 wt. % to 30 wt.%, preferably from 5 wt. % to 15 wt. %, relative to the total weight of the composition.

Aqueous phase

As an oil-in-water emulsion, the cosmetic composition of the present invention comprises a continuous aqueous phase.

Said aqueous phase comprises water.

Optionally, the continuous aqueous phase comprises an organic solvent miscible with water (at room temperature 25°C) such as glycerin and glycols having from 2 to 20 carbon atoms, preferably from 2 to 10 carbon atoms, and preferentially having from 2 to 6 carbon atoms, such as propylene glycol, butylene glycol, pentylene glycol, hexylene glycol, caprylyl glycol, dipropylene glycol, diethylene glycol; and mixtures thereof.

Advantageously, said aqueous phase is present in an amount ranging from 30 wt.% to 95 wt.%, preferably from 35 wt.% to 90 wt.%, and more preferably from 40 wt.% to 85 wt.%, relative to the total weight of the composition.

Fatty phase

As an oil-in-water emulsion, the composition of the present invention comprises at least one dispersed fatty phase.

Said fatty phase comprises at least one oil.

The oil can be volatile or non-volatile.

The term “oil” means a water-immiscible non-aqueous compound that is liquid at room temperature (25°C) and at atmospheric pressure (760 mmHg). The term “non-volatile oil” means an oil that may remain on keratin materials at room temperature and atmospheric pressure for at least several hours and that especially has a vapour pressure of less than 10^{-3} mmHg (0.13 Pa). A non-volatile oil may also be defined as having an evaporation rate such that, under the conditions defined previously, the amount evaporated after 30 minutes is less than 0.07 mg/cm².

These oils may be of plant, mineral or synthetic origin.

Said oil can be selected from hydrocarbonated, or silicone oils.

The term “hydrocarbon-based oil” means an oil formed essentially from, or even constituted by, carbon and hydrogen atoms, and optionally O and N atoms, and free of Si and F heteroatoms. Such oil can contain alcohol, ester, ether, carboxylic acid, amine and/or amide groups.

The term “silicone oil” means an oil containing at least one silicon atom, especially containing Si-O groups.

Preferably, the oil is selected from hydrocarbon-based oils, such as isohexadecane, squalane, caprylic/capric triglyceride, isononyl isononanoate, pentaerythrityl tetraisostearate, , and silicone oils, such as dimethicone.

The fatty phase can also comprise a non-oil fatty substance, for example butters and waxes, such as butyrospermum parkii butter, cera alba, myristyl myristate, and beeswax, so as to build texture and deliver a suitable skin finish.

Advantageously, the fatty phase is present in an amount ranging from 2 wt.% to 40 wt.%, preferably from 5 wt.% to 35 wt.%, more preferably from 7 wt.% to 30 wt.%, relative to the total weight of the composition of the present invention.

Alkali metal salts of acrylic acid homopolymer

The composition according to the present invention may comprise at least one alkali metal salt of acrylic acid homopolymer.

The alkali metal salt of acrylic acid homopolymer suitable for use in the composition according to the invention is selected from in particular sodium polyacrylate, potassium polyacrylate, and combinations thereof. Sodium polyacrylate is preferably used.

The acrylic acid homopolymer may be advantageously neutralized to a degree ranging from 5% to 80%.

As sodium polyacrylate that can be used according to the invention, use may be made of those sold under the names Cosmedia SPL® by the company Cognis, or else Luvigel®EM sold by the company BASF, the product sold by the company Sensient under the trade reference Covacryl MV 60® or else under the trade name Cosmedia® by Cognis.

If presents, advantageously, the alkali metal salt of acrylic acid homopolymer is present in an amount ranging from 0.1 wt.% to 10 wt.%, preferably from 0.2 wt.% to 8 wt.%, more preferably from 0.3 wt.% to 5 wt.%, most preferably from 0.3 wt.% to 2 wt.%, relative to the total weight of the composition.

Other cosmetic active ingredients

The composition of the present invention may comprise one or more other cosmetic active ingredient in addition to the C-glycoside.

It is easy for the skilled in the art to adjust the amount of the additional cosmetic active ingredient based on the final use of the composition according to the present invention.

Additional adjuvants or additives

The composition of the present invention may also comprise conventional cosmetic adjuvants or additives, for instance fragrances, preserving agents and bactericides, pH regulators, and mixtures thereof.

The skilled in the art can select the amount of the additional adjuvants or additive so as not to adversely impact the final use of the composition according to the present invention.

According to a particularly preferred embodiment, the present invention provides a composition in the form of an oil-in-water emulsion for caring for and/or making up keratin materials comprising, relative to the total weight of the composition:

- (i) from 1.5 wt.% to 7 wt.% of at least one structuring agent selected from linear and saturated C14-C18 fatty acids;
- (ii) from 0.8 wt.% to 12 wt.% of at least one surfactant selected from glyceryl stearate, PEG-100 stearate, and mixtures thereof;
- (iii) from 0.6 wt.% to 3.5 wt.% of at least one surfactant selected from ethers of glucoside and a C12-C22 fatty alcohol, C14-C22 fatty alcohols, and mixtures thereof;

(iv) from 0.1 wt.% to 2 wt.% at least one optionally crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid homopolymers; and

(v) from 5 wt.% to 30 wt.% of at least one C-glycoside selected from C- β -D-xylopyranoside-2-hydroxypropane or C- α -D-xylopyranoside-2-hydroxypropane, and a combination thereof,

wherein the weight ratio of the structuring agent selected from saturated C14-C22 fatty acids to the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is less than 1.8.

Galenic form and method

The composition of the present invention is in the form of oil-in-water emulsion.

The composition according to the present invention has a lamellar texture.

The term "lamellar" means a liquid crystal structure, or a swollen or non-swollen crystalline lamellar hydrate phase with plane symmetry, comprising several amphiphilic bilayers arranged in parallel and separated by a liquid medium.

The composition of the present invention can be, for example, cream.

The composition of the present invention can be used for caring for and/or making up keratin materials, for example, the skin.

According to the second aspect, the present invention provides a non-therapeutic method for caring for and/or making up keratin materials, comprising applying the composition according to the first aspect of the present invention to the keratin materials.

EXAMPLES

The following examples serve to illustrate the present invention without, however, being limiting in nature.

Main raw materials used, trade names and supplier thereof are listed in Table 1.

Table 1

INCI Name	Trade Name	Supplier
ARACHIDYL ALCOHOL (and) BEHENYL ALCOHOL (and)	MONTANOV 202	SEPPIC

ARACHIDYL GLUCOSIDE		
AMMONIUM POLYACRYLOYLDIMETHYL TAURATE	HOSTACERIN AMPS ®	CLARIANT
STEARIC ACID	EDENOR®ST 05MY	Emery Oleochemicals Group
GLYCERYL STEARATE (and) PEG-100 STEARATE	ARLACEL 165 FL	UNIQEMA
HYDROXYPROPYL TETRAHYDROPYRANTRIOL	MEXORYL SCS	NOVEAL
BEESWAX	CERABEIL LOR	BAERLOCHER
SODIUM POLYACRYLATE	COVACRYL MV60	SENSIENT
ISONONYL ISONONANOATE	Radia 7710	Oleon N.V.
DIMETHICONE	XIAMETER(R) PMX-200 SILICONE FLUID 5CS	Dow Corning Corporation

Invention example 1 and comparative examples 1-3

Compositions of invention example (IE.) 1 and comparative examples (CE.) 1-3 were prepared according to the amounts given in Table 2. The amount of each component is given in % by weight of the total weight of the composition containing it.

Table 2

Components	Ex. 1	Ex. 2	CE. 1	CE. 2	CE. 3
Stearic acid	2.76	2.12	2.76	2.76	2.76
Palmitic acid	2.29	1.76	2.29	2.29	2.29
Myristic acid	0.16	0.12	0.16	0.16	0.16
Pentaerythrityl tetraisostearate	1	1	1	1	1
Isononyl isononanoate	1	1	1	1	1
Dimethicone	1	0	1	1	1
Beeswax	0	1.1	0	0	1.36
PEG-100 stearate	0.4	0.4	0.4	0.4	0.4
Glyceryl stearate	0.4	0.4	0.4	0.4	0.4
Behenyl alcohol	0.9	0.9	0.6	1.6	0.9
Arachidyl alcohol	1.65	1.65	1.1	1.1	1.65
Arachidyl glucoside	0.45	0.45	0.3	0.3	0.45

Hydroxypropyl tetrahydropyrantriol	10.5	10.5	10.5	10.5	10.5
Sodium polyacrylate	0.6	0.6	0.6	0.6	0.6
Ammonium polyacryloyldimethyl taurate	0.2	0.2	0	0	0
Water	QS100	QS100	QS100	QS100	QS100
Ratio of fatty acid: (fatty alcohol+glucoside)	1.74	1.33	2.6	1.74	1.74

Compositions of invention examples 1-2 are compositions according to the present invention.

Compositions of comparative examples 1-3 do not comprise a polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid.

Preparation process:

The compositions listed above were prepared as follows, taking the composition of invention example 1 as an example:

1. heating stearic acid, glyceryl stearate (and) PEG-100 stearate, arachidyl alcohol (and) behenyl alcohol (and) arachidyl glucoside, dimethicone, isononyl isononanoate, and pentaerythrityl tetraisostearate, to 75-80°C;
2. heating water to 75-80°C.
3. adding stearic acid, glyceryl stearate (and) PEG-100 stearate, arachidyl alcohol (and) behenyl alcohol (and) arachidyl glucoside into water at high temperature with stirring;
4. adding sodium polyacrylate and ammonium polyacryloyldimethyl taurate with string;
5. adding hydroxypropyl tetrahydropyrantriol with stirring; and
6. cooling down the composition obtained.

Evaluation

Stability

The stability was evaluated as follows.

Each composition prepared above was stored in two transparent glass bottles (100mL), one was put in a chamber at room temperature (25°C), and the other was put in a chamber at 37°C. After 2 months, the appearance of each composition was observed.

If there is liquid in the gap between the composition and the bottle, the composition is considered to be unstable, otherwise it is stable.

The results on stability of each composition prepared above were summarized in Table 3.

Table 3

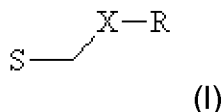
Properties	IE.1	IE.2	CE. 1	CE. 2	CE. 3
Stability at 37°C	Stable	Stable	Unstable	Unstable	Unstable
Stability at RT (25°C)	Stable	Stable	Unstable	Unstable	Stable

It can be seen from Table 3 that compositions of invention examples 1-2 are stable at both 37°C and room temperature (25°C) for two months.

CLAIMS

1. A composition in the form of an oil-in-water emulsion for caring for and/or making up keratin materials, comprising:

- (i) at least one structuring agent selected from saturated C12-C22 fatty acids;
- (ii) at least one surfactant selected from fatty acid esters;
- (iii) at least one surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof;
- (iv) at least one polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid; and
- (v) at least one C-glycoside selected from compounds of formula (I):



in which:

- R represents a saturated C₁ to C₁₀, in particular C₁ to C₄, alkyl radical which can optionally be substituted by at least one radical selected from OH, COOH or COOR"₂, with R"₂ being a saturated C₁-C₄ alkyl radical,

- S represents a monosaccharide or a polysaccharide comprising up to 20 sugar units, in particular up to 6 sugar units, in pyranose and/or furanose form and of the L and/or D series, it being possible for the said monosaccharide or polysaccharide to be substituted by a hydroxyl group which is necessarily free and optionally one or more optionally protected amine functional group(s), and

- X represents a radical selected from the -CO-, -CH(OH)-, -CH(NH₂)-, -CH(NHCH₂CH₂CH₂OH)-, -CH(NHPh)- and -CH(CH₃)- groups and in particular a -CO-, -CH(OH)- or -CH(NH₂)- radical and more particularly a -CH(OH)- radical,

the S-CH₂-X bond represents a bond of C-anomeric nature, which can be α or β,

and also their physiologically acceptable salts, their solvates, such as the hydrates, and their optical and geometrical isomers.

2. Composition according to claim 1, wherein the structuring agent is selected from linear and saturated C14-C18 fatty acids, preferably, the structuring

agent is selected from myristic acid, palmitic acid, stearic acid, and a combination thereof.

3. Composition according to claim 1 or 2, wherein the structuring agent is present in an amount ranging from 0.5 wt.% to 30 wt.%, preferably from 1 wt.% to 20 wt.%, more preferably from 1.5 wt.% to 7 wt.%, relative to the total weight of the composition.

4. Composition according to any of claims 1 to 3, wherein the surfactant selected from fatty acid esters is selected from mono- and polyglyceryl esters of a fatty acid, fatty acid esters of polyalkylene glycol, and mixtures thereof; preferably, the surfactant is selected from mono glyceryl esters or poly glyceryl esters of a C8-C24 fatty acid and polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200; sorbitol esters of a C8-C24 fatty acid or polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200 oxyalkylene units; sugar esters of a C8-C24 fatty acid or polyoxyalkylenated derivatives thereof, preferably containing from 10 to 200 oxyalkylene units; or mixtures thereof; more preferably, the surfactant is selected from glyceryl stearate, PEG-100 stearate, and mixtures thereof.

5. Composition according to any of claims 1 to 4, wherein the surfactant selected from fatty acid esters is present in an amount ranging from 0.2 wt.% to 20 wt.%, preferably from 0.4 wt.% to 15 wt.%, more preferably from 0.8 wt.% to 12 wt.%, relative to the total weight of the composition.

6. Composition according to any of claims 1 to 5, wherein the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is selected from ethers of glucoside and a C12-C22 fatty alcohol; C14-C22 fatty alcohols; or combinations thereof.

7. Composition according to any of claims 1 to 6, wherein the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is present

in an amount ranging from 0.2 wt.% to 12 wt.%, preferably from 0.4 wt.% to 8 wt.%, more preferably from 0.6 wt.% to 3.5 wt.%, relative to the total weight of the composition.

8. Composition according to any of claims 1 to 7, wherein the weight ratio of the structuring agent selected from saturated C12-C22 fatty acids to the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is less than 2.5, preferably less than 1.8.

9. Composition according to any of claims 1 to 8, wherein the polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid is selected from optionally crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid homopolymers, preferably selected from sodium polyacryloyldimethyltaurate, ammonium polyacryloyldimethyl taurate, potassium polyacryloyldimethyl taurate, and combinations thereof.

10. Composition according to any of claims 1 to 9, wherein the the polymer derived from a monomer of 2-acrylamido-2-methylpropanesulfonic acid is present in an amount ranging from 0.05 wt. % to 10 wt. %, preferably from 0.08 wt. % to 8 wt. %, more preferably, 0.1 wt.% to 2 wt.%, relative to the total weight of the composition.

11. Composition according to any of claims 1 to 10, wherein the C-glycoside is selected from

- C- β -D-xylopyranoside-n-propane-2-one,
- C- α -D-xylopyranoside-n-propan-2-one,
- C- β -D-xylopyranoside-2-hydroxypropane,
- C- α - D-xylopyranoside-2-hydroxypropane,
- 1-(C- β -D-fucopyranoside)propan-2-one,
- 1-(C- α -D-fucopyranoside)propan-2-one,
- 1-(C- β -L-fucopyranoside)propan-2-one,
- 1-(C- α -L-fucopyranoside)propan-2-one,

- 1-(C- β -D-fucopyranoside)-2-hydroxypropane,
- 1-(C- α -D-fucopyranoside)-2-hydroxypropane,
- 1-(C- β -L-fucopyranoside)-2-hydroxypropane,
- 1-(C- α -L-fucopyranoside)-2-hydroxypropane,
- 1-(C- β -D-glucopyranosyl)-2-hydroxypropane,
- 1-(C- α -D-glucopyranosyl)-2-hydroxypropane,
- 1-(C- β -D-galactopyranosyl)-2-hydroxypropane,
- 1-(C- α -D-galactopyranosyl)-2-hydroxypropane,
- 1-(C- β -D-fucofuranosyl)propan-2-one,
- 1-(C- α -D-fucofuranosyl)propan-2-one,
- 1-(C- β -L-fucofuranosyl)propan-2-one,
- 1-(C- α -L-fucofuranosyl)propan-2-one,
- C- β -D-maltopyranoside-n-propan-2-one,
- C- α -D-maltopyranoside-n-propan-2-one,
- C- β -D-maltopyranoside-2-hydroxypropane,
- C- α -D-maltopyranoside-2-hydroxypropane,

their isomers and their mixtures.

12. Composition according to any of claims 1 to 11, wherein the C-glycoside is present in the composition in an amount ranging from 3 wt. % to 30 wt. %, preferably from 5 wt. % to 15 wt. %, relative to the total weight of the composition.

13. Composition according to any of claims 1 to 12, further comprising at least one alkali metal salt of acrylic acid homopolymer, preferably the alkali metal salt of acrylic acid homopolymer is selected from sodium polyacrylate, potassium polyacrylate, and combinations thereof.

14. Composition according to claim 13, wherein the alkali metal salt of acrylic acid homopolymer is present in an amount ranging from 0.1 wt.% to 10 wt.%, preferably from 0.2 wt.% to 8 wt.%, more preferably from 0.3 wt.% to 5 wt.%, most preferably from 0.3 wt.% to 2 wt.%, relative to the total weight of the composition.

15. Composition according to claim 1, comprising, relative to the total weight of the composition:

(i) from 1.5 wt.% to 7 wt.% of at least one structuring agent selected from linear and saturated C14-C18 fatty acids;

(ii) from 0.8 wt.% to 12 wt.% of at least one surfactant selected from glyceryl stearate, PEG-100 stearate, and mixtures thereof;

(iii) from 0.6 wt.% to 3.5 wt.% of at least one surfactant selected from ethers of glucoside and a C12-C22 fatty alcohol, C14-C22 fatty alcohols, and mixtures thereof;

(iv) from 0.1 wt.% to 2 wt.% at least one optionally crosslinked and/or neutralized 2-acrylamido-2-methylpropanesulfonic acid homopolymers; and

(v) from 5 wt.% to 30 wt.% of at least one C-glycoside selected from C- β -D-xylopyranoside-2-hydroxypropane or C- α -D-xylopyranoside-2-hydroxypropane, and a combination thereof,

wherein the weight ratio of the structuring agent selected from saturated C14-C22 fatty acids to the surfactant selected from fatty alcohols, alkylglucosides, and combinations thereof is less than 1.8.

16. A non-therapeutic method for caring for and/or making up keratin materials, comprising applying the composition according to any of claims 1 to 15 to the keratin materials.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2022/140920

A. CLASSIFICATION OF SUBJECT MATTER

A61K8/60(2006.01)i; A61K8/81(2006.01)i; A61K8/34(2006.01)i; A61K8/37(2006.01)i; A61K8/36(2006.01)i; A61Q19/08(2006.01)i

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)

IPC: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 practicable, search terms used)

CNTXT;WPABSC;WPABS;ENTXT;DWPI;ENTXTC;VEN;TWMED; AUABS; TWXT; EPTXT; USTXT;WOTXT; CATXT;CNKI;DUXIU: C-glycoside,polyacryloyldimethyl taurate,o/w,emulsion,stearic acid,palmitic acid,myristic acid,glucoside,alcohol

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010168055 A1 (OREAL) 01 July 2010 (2010-07-01) claims 1-6 and 14, examples 5-6, description, paragraph [342]	1-16
X	FR 3113836 A1 (L'OREAL) 11 March 2022 (2022-03-11) abstract, description, paragraph [0226], example 1	1-16
X	US 2009075935 A1 (OREAL) 19 March 2009 (2009-03-19) example 2, compositions A and B	1-16
A	CN 101099716 A (OREAL) 09 January 2008 (2008-01-09) claims 1-24	1-16
A	CN 104644532 A (AMOREPACIFIC CORP) 27 May 2015 (2015-05-27) examples 1-5	1-16



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“D” document cited by the applicant in the international application

“E” earlier application or patent 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

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

05 September 2023

Date of mailing of the international search report

20 September 2023

Name and mailing address of the ISA/CN

**CHINA NATIONAL INTELLECTUAL PROPERTY
ADMINISTRATION**
6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing
100088, China

Authorized officer

LIN,HanYun

Telephone No. (+86) 010-62412202

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2022/140920

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	2010168055	A1	01 July 2010	JP	2010155836	A	15 July 2010
				FR	2940610	A1	02 July 2010
				FR	2940610	B1	06 May 2011
				BRPI	0913763	A2	28 February 2012
				US	8445459	B2	21 May 2013
				ES	2598499	T3	27 January 2017
				KR	20100080439	A	08 July 2010
				KR	101309071	B1	17 September 2013
				EP	2206491	A1	14 July 2010
				EP	2206491	B1	17 August 2016
				CN	101766546	A	07 July 2010
FR	3113836	A1	11 March 2022	FR	3113836	B1	03 March 2023
US	2009075935	A1	19 March 2009	None			
CN	101099716	A	09 January 2008	AT	485027	T	15 November 2010
				US	2008026020	A1	31 January 2008
				JP	2008013563	A	24 January 2008
				FR	2903001	A1	04 January 2008
				FR	2903001	B1	26 September 2008
				DE	602007009901	D1	02 December 2010
				EP	1875893	A2	09 January 2008
				EP	1875893	A3	13 February 2008
				EP	1875893	B1	20 October 2010
CN	104644532	A	27 May 2015	HK	1204954	A1	11 December 2015