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(54) **COSMETIC COMPOSITION COMPRISING ANIONIC AND AMPHOTERIC SURFACTANTS, CATIONIC POLYSACCHARIDES AND UNSATURATED FATTY ALCOHOLS, AND COSMETIC TREATMENT PROCESS**

KOSMETISCHE ZUSAMMENSETZUNG MIT EINEM ANIONISCHEN UND AMPHOTEREN TENSID, KATIONISCHEN POLYSACCHARIDEN UND UNGESÄTTIGTEN FETTALKOHOLEN SOWIE VERFAHREN ZUR KOSMETISCHEN BEHANDLUNG

COMPOSITION COSMÉTIQUE COMPRENANT DES TENSIOACTIFS ANIONIQUE ET AMPHOTÈRE, DES POLYSACCHARIDES CATIONIQUES ET DES ALCOOLS GRAS INSATURÉS, ET PROCÉDÉ DE TRAITEMENT COSMÉTIQUE

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Description

[0001] The present invention relates to a clear composition, notably a cosmetic composition, in particular a hair composition, comprising one or more anionic surfactants, one or more amphoteric surfactants, one or more unsaturated fatty alcohols in a total content of less than 1% by weight and one or more cationic polysaccharides The invention also relates to a cosmetic treatment process using said composition. These compositions are more particularly intended for cleansing and/or conditioning keratin materials, notably the hair.

[0002] It is common practice to use detergent cosmetic compositions such as shampoos or shower gels, based essentially on surfactants, for washing keratin materials such as the skin and the hair. These compositions are generally applied to the keratin materials, which are preferably wet, and the foam generated by massaging or rubbing with the hands or a washing mitt makes it possible, after rinsing with water, to remove the diverse types of soiling initially present on the hair or the skin. These base compositions have good washing power, but their intrinsic cosmetic properties however remain quite poor, notably due to the fact that the relatively aggressive nature of such a cleansing treatment may in the long term give rise to more or less pronounced damage on hair fibres, associated in particular with the gradual removal of the fats or proteins contained in or at their surface.

[0003] Thus, to improve the cosmetic properties of the above detergent compositions, and more particularly of those that are required to be applied to sensitized hair (i.e. hair that is generally damaged or embrittled by the action of external atmospheric agents such as light and bad weather, and/or mechanical or chemical treatments such as blow-drying, combing, dyeing, bleaching, permanent-waving and/or relaxing), it is now common practice to introduce into these compositions additional cosmetic agents known as conditioning agents, which are intended mainly to repair or limit the harmful or undesirable effects caused by the various treatments or attacking factors to which keratin materials are more or less repeatedly subjected, notably keratin fibres and in particular the hair. These conditioning agents may, of course, also improve the cosmetic behaviour of natural hair.

[0004] It is thus known practice to use cationic polymers and/or silicones as conditioning agents in detergent cosmetic compositions such as shampoos, to give the hair satisfactory cosmetic properties, in particular in terms of sheen, softness, lightness, a natural feel and improved disentangling.

[0005] Mention may notably be made of FR 2 773 710 which describes aqueous cosmetic compositions comprising anionic and amphoteric surfactants and cationic polysaccharides.

[0006] It has also been envisaged to propose compositions with a novel visual appearance, namely compositions that are particularly clear, or even transparent; however, the introduction of fatty substances, even when liquid, may have an impact on the clarity of the compositions.

[0007] Thus, the current compositions for washing and/or conditioning keratin materials still have several drawbacks: the presence of silicone, the environmental profile of which is not always optimal, the generally creamy and opaque appearance of the composition associated with the presence of the conditioning agents, the start of foaming and the foam quality which are still not entirely satisfactory, rapid regreasing of the hair accompanied by lankness.

[0008] There is thus a real need for clear cosmetic compositions intended for cleansing/washing keratin materials, preferably not comprising any silicone ("silicone-free"), having good working properties such as good intrinsic washing power, while at the same time making it possible to obtain excellent cosmetic properties, in particular in terms of disentangling, suppleness, manageability, a soft feel and smoothing of the treated hair.

[0009] The Applicant has discovered, surprisingly, that it is possible to formulate detergent and conditioning compositions for keratin materials, having the desired properties, by combining anionic and amphoteric surfactants with particular cationic polymers and particular fatty alcohols.

[0010] One subject of the present invention is thus a cosmetic composition, notably a hair composition, comprising:

- one or more anionic surfactants,
- one or more amphoteric surfactants,
- one or more cationic polysaccharides, and
- one or more unsaturated fatty alcohols in a total content of less than 1 % by weight, relative to the total weight of the composition, said composition being clear.

[0011] The composition according to the invention has good detergent or washing properties, and has good tolerance notably with respect to the skin, mucous membranes, the scalp and the eyes, while at the same time leading to good conditioning of keratin materials.

[0012] The composition according to the invention makes it possible rapidly to obtain an abundant foam of very good quality. The foam is homogeneous and shows good persistence over time. It spreads easily and uniformly on keratin materials and rinses off easily.

[0013] In addition, the composition according to the invention affords good cosmetic properties to keratin materials, notably to the hair, in particular to sensitized hair. After rinsing, the hair is easy to disentangle, supple, smooth and has

a soft feel. By means of the invention, it is also possible to obtain a cosmetic composition that is clear, and transparent to translucent, more preferentially transparent.

[0014] The term "clear composition" means a composition which can be seen through distinctly with the naked eye.

[0015] The transparency of the composition may be characterized by measuring its transmittance. In the context of the present invention, the transmittance measurements are taken at 25°C and at atmospheric pressure (1 atm) with a Cary Type 100 scan UV-visible spectrophotometer.

[0016] Preferably, the transmittance of the composition according to the invention, measured at room temperature (25°C) and atmospheric pressure, is greater than or equal to 80%, preferentially greater than or equal to 85%, even more preferentially greater than or equal to 90%, or even greater than or equal to 92% and better still greater than or equal to 94%; in particular ranging from 80% to 100%, or even from 85% to 100%, notably from 90% to 100%, or even from 92% to 98%.

[0017] The composition is particularly suitable for use on fine and/or damaged and/or sensitized hair; the hair is easy to disentangle and to style, supple and light, and has a soft feel.

[0018] The composition according to the invention preferably has a thickened texture, which allows it to be spread on the hair easily while avoiding running on application, for example into the eyes; it has also been found that the composition according to the invention is particularly stable.

[0019] The viscosity of the composition according to the invention may be evaluated by determining, at a temperature of 25°C, the flow time of an amount of product (for example 90 g of poured product) through a calibrated orifice using a Ford cup viscometer, equipped with a Ford cup with an orifice diameter of 8 mm (cF8). Preferably, the flow time of the composition according to the invention is greater than or equal to 20 seconds, notably greater than or equal to 30 seconds, better still greater than or equal to 40 seconds; in particular between 20 and 200 seconds, better still between 30 and 150 seconds, or even between 40 and 100 seconds, better still between 50 and 90 seconds

[0020] In the present description, the expression "at least one" is equivalent to the expression "one or more" and may be replaced therewith.

[0021] In the present description, the expression "between" is equivalent to the expression "ranging from" and may be replaced therewith; in these expressions, the limits are considered as being included.

1/ Anionic surfactants

[0022] The cosmetic composition according to the invention comprises one or more anionic surfactants.

[0023] The term "anionic surfactant" means a surfactant including, as ionic or ionizable groups, only anionic groups.

[0024] In the present description, a species is termed as being "anionic" when it bears at least one permanent negative charge or when it can be ionized as a negatively charged species, under the conditions of use of the composition of the invention (for example the medium or the pH) and not comprising any cationic filler.

[0025] The anionic surfactants may be sulfate, sulfonate and/or carboxylic (or carboxylate) surfactants. Needless to say, a mixture of these surfactants may be used.

[0026] It is understood in the present description that:

- the carboxylate anionic surfactants comprise at least one carboxylic or carboxylate function (-COOH or $-COO^-$) and may optionally also comprise one or more sulfate and/or sulfonate functions;
- the sulfonate anionic surfactants comprise at least one sulfonate function ($-SO_3H$ or $-SO_3^-$) and may optionally also comprise one or more sulfate functions, but do not comprise any carboxylate functions; and
- the sulfate anionic surfactants comprise at least one sulfate function but do not comprise any carboxylate or sulfonate functions.

[0027] The carboxylic anionic surfactants that may be used thus include at least one carboxylic or carboxylate function (-COOH or $-COO^-$).

[0028] They may be chosen from the following compounds: acylglycinates, acyllactylates, acylsarcosinates, acylglutamates; alkyl ether carboxylic acids, alkyl(C6-30 aryl)ether carboxylic acids, alkyl-D-galactosideuronic acids, alkylamido ether carboxylic acids; and also the salts of these compounds; the alkyl and/or acyl groups of these compounds including from 6 to 30 carbon atoms, notably from 12 to 28, better still from 14 to 24 or even from 16 to 22 carbon atoms; the aryl group preferably denoting a phenyl or benzyl group; these compounds possibly being polyoxyalkylenated, notably polyoxyethylenated, and then preferably including from 1 to 50 ethylene oxide units, better still from 2 to 10 ethylene oxide units.

[0029] Use may also be made of the C6-C24 alkyl monoesters of polyglycoside-polycarboxylic acids, such as C6-C24 alkyl polyglycoside-citrates, C6-C24 alkyl polyglycoside-tartrates and C6-C24 alkyl polyglycoside-sulfosuccinates, and salts thereof.

[0030] Among the above carboxylic surfactants, mention may be made most particularly of polyoxyalkylenated alkyl(amido) ether carboxylic acids and salts thereof, in particular those including from 2 to 50 alkylene oxide and in

particular ethylene oxide groups, such as the compounds sold by the company Kao under the Akypo names. The polyoxyalkylenated alkyl(amido) ether carboxylic acids that may be used are preferably chosen from those of formula (1):

$$R_{1'}\text{-}(OC_2H_4)_{n'}\text{-}OCH_2COOA \qquad (1)$$

in which:

- $R_{1'}$ represents a linear or branched C6-C24 alkyl or alkenyl radical, a (C8-C9)alkylphenyl radical, a radical $R_{2'}CONH$-CH2-CH2- with $R_{2'}$ denoting a linear or branched C9-C21 alkyl or alkenyl radical; preferably, $R_{1'}$ is a C8-C20, preferably C8-C18, alkyl radical;
- n' is an integer or decimal number (mean value) ranging from 2 to 24 and preferably from 2 to 10,
- A denotes H, ammonium, Na, K, Li, Mg or a monoethanolamine or triethanolamine residue.

[0031] Use may also be made of mixtures of compounds of formula (1), in particular mixtures of compounds bearing different groups $R_{1'}$.

[0032] The polyoxyalkylenated alkyl(amido) ether carboxylic acids that are particularly preferred are those of formula (1) in which:

- $R_{1'}$ denotes a linear or branched C8-C22, notably C10-C16 or even C12-C14 alkyl radical, or alternatively a (C8-C9)alkylphenyl radical;
- A denotes a hydrogen or sodium atom, and
- n' ranges from 2 to 20, preferably from 2 to 10.

[0033] Even more preferentially, use is made of the compounds of formula (1) in which $R_{1'}$ denotes a C12-C14 alkyl, cocoyl, oleyl, nonylphenyl or octylphenyl radical, A denotes a hydrogen or sodium atom and n' ranges from 2 to 10.

[0034] Among the commercial products that may preferably be used are the products sold by the company KAO under the names:

Akypo® NP 70 (R_1 = nonylphenyl, n = 7, A = H)
Akypo® NP 40 (R_1 = nonylphenyl, n = 4, A = H)
Akypo® OP 40 (R_1 = octylphenyl, n = 4, A = H)
Akypo® OP 80 (R_1 = octylphenyl, n = 8, A = H)
Akypo® OP 190 (R_1 = octylphenyl, n = 19, A = H)
Akypo® RLM 38 (R_1 = (C_{12}-C_{14})alkyl, n = 4, A = H)
Akypo® RLM 38 NV (R_1 = (C_{12}-C_{14})alkyl, n = 4, A = Na)
Akypo® RLM 45 CA (R_1 = (C_{12}-C_{14})alkyl, n = 4.5, A = H)
Akypo® RLM 45 NV (R_1 = (C_{12}-C_{14})alkyl, n = 4.5, A = Na)
Akypo® RLM 100 (R_1 = (C_{12}-C_{14})alkyl, n = 10, A = H)
Akypo® RLM 100 NV (R_1 = (C_{12}-C_{14})alkyl, n = 10, A = Na)
Akypo® RLM 130 (R_1 = (C_{12}-C_{14})alkyl, n = 13, A = H)
Akypo® RLM 160 NV (R_1 = (C_{12}-C_{14})alkyl, n = 16, A = Na),
or by the company Sandoz under the names:

Sandopan DTC-Acid (R_1 = (C_{13})alkyl, n = 6, A = H)
Sandopan DTC (R_1 = (C_{13})alkyl, n = 6, A = Na)
Sandopan LS 24 (R_1 = (C_{12}-C_{14})alkyl, n = 12, A = Na)
Sandopan JA 36 (R_1 = (C_{13})alkyl, n = 18, A = H),
and more particularly the products sold under the following names:

Akypo® RLM 45 (INCI: Laureth-5 carboxylic acid)
Akypo® RLM 100
Akypo® RLM 38.

[0035] Preferentially, the carboxylic anionic surfactants are chosen, alone or as a mixture, from:

- acylglutamates, notably of C6-C24 or even C12-C20, such as stearoylglutamates, and in particular disodium stearoylglutamate;
- acylsarcosinates, notably of C6-C24 or even C12-C20, such as palmitoylsarcosinates, and in particular sodium

palmitoylsarcosinate;
- acyllactylates, notably of C12-C28 or even C14-C24, such as behenoyllactylates, and in particular sodium behenoyllactylate;
- C6-C24 and notably C12-C20 acylglycinates;
- (C6-C24)alkyl ether carboxylates, and notably (C12-C20)alkyl ether carboxylates; in particular those including from 2 to 50 ethylene oxide groups;
- polyoxyalkylenated (C6-C24)alkylamido ether carboxylic acids, in particular those including from 2 to 50 ethylene oxide groups;

in particular in acid form or in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

[0036] Polyoxyalkylenated (C_6-C_{24})alkyl ether carboxylic acids and salts thereof are preferably used.

[0037] The sulfonate anionic surfactants that may be used include at least one sulfonate function (-SO_3H or -SO_3^-). They may be chosen from the following compounds: alkylsulfonates, alkyl ether sulfonates, alkylamidesulfonates, alkylarylsulfonates, α-olefin sulfonates, paraffin sulfonates, alkyl sulfosuccinates, alkyl ether sulfosuccinates, alkylamidesulfosuccinates, alkylsulfoacetates, N-acyltaurates, acylisethionates; alkylsulfolaurates; and also the salts of these compounds;

the alkyl groups of these compounds including from 6 to 30 carbon atoms, notably from 12 to 28, better still from 14 to 24 or even from 16 to 22 carbon atoms; the aryl group preferably denoting a phenyl or benzyl group;
these compounds possibly being polyoxyalkylenated, notably polyoxyethylenated, and then preferably including from 1 to 50 ethylene oxide units and better still from 2 to 10 ethylene oxide units.

[0038] Preferentially, the sulfonate anionic surfactants are chosen, alone or as a mixture, from:

- C6-C24 and notably C12-C20 olefin sulfonates;
- C6-C24 and notably C12-C20 alkylsulfosuccinates, notably laurylsulfosuccinates;
- C6-C24 and notably C12-C20 alkyl ether sulfosuccinates;
- (C6-C24)acylisethionates and preferably (C12-C18)acylisethionates;

in particular in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

[0039] The sulfate anionic surfactants that may be used include at least one sulfate function (-OSO_3H or -OSO_3^-).

[0040] They may be chosen from the following compounds: alkyl sulfates, alkyl ether sulfates, alkylamido ether sulfates, alkylaryl polyether sulfates, monoglyceride sulfates; and the salts of these compounds;

the alkyl groups of these compounds including from 6 to 30 carbon atoms, notably from 12 to 28, better still from 14 to 24 or even from 16 to 22 carbon atoms; the aryl group preferably denoting a phenyl or benzyl group;
these compounds possibly being polyoxyalkylenated, notably polyoxyethylenated, and then preferably including from 1 to 50 ethylene oxide units and better still from 2 to 10 ethylene oxide units.

[0041] Preferentially, the sulfate anionic surfactants are chosen, alone or as a mixture, from:

- alkyl sulfates, notably of C6-C24 or even C12-C20, and
- alkyl ether sulfates, notably of C6-C24 or even C12-C20, preferably comprising from 2 to 20 ethylene oxide units;

in particular in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

[0042] When the anionic surfactant is in salt form, said salt may be chosen from alkali metal salts, such as the sodium or potassium salt, ammonium salts, amine salts and in particular amino alcohol salts, and alkaline-earth metal salts, such as the magnesium salt.

[0043] Examples of amino alcohol salts that may be mentioned include monoethanolamine, diethanolamine and triethanolamine salts, monoisopropanolamine, diisopropanolamine or triisopropanolamine salts, 2-amino-2-methyl-1-propanol salts, 2-amino-2-methyl-1,3-propanediol salts and tris(hydroxymethyl)aminomethane salts.

[0044] Alkali metal or alkaline-earth metal salts and in particular the sodium or magnesium salts are preferably used.

[0045] Preferentially, the anionic surfactants are chosen, alone or as a mixture, from:

- C6-C24 and notably C12-C20 alkyl sulfates;
- C6-C24 and notably C12-C20 alkyl ether sulfates; preferably comprising from 2 to 20 ethylene oxide units;
- C6-C24 and notably C12-C20 alkylsulfosuccinates, notably laurylsulfosuccinates;
- C6-C24 and notably C12-C20 olefin sulfonates;

- C6-C24 and notably C12-C20 alkyl ether sulfosuccinates;
- (C6-C24)acylisethionates and preferably (C12-C18)acylisethionates;
- C6-C24 and notably C12-C20 acylsarcosinates; notably palmitoylsarcosinates;
- (C6-C24)alkyl ether carboxylates, preferably (C12-C20)alkyl ether carboxylates; in particular those including from 2 to 50 ethylene oxide groups;
- polyoxyalkylenated (C6-C24)alkylamido ether carboxylic acids and salts thereof, in particular those including from 2 to 50 alkylene oxide and in particular ethylene oxide groups;
- C6-C24 and notably C12-C20 acylglutamates;
- C6-C24 and notably C12-C20 acylglycinates;

in particular in acid form or in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

[0046] Preferentially, the composition comprises one or more sulfate anionic surfactants, preferably one or more C6-C24 and notably C12-C20 alkyl sulfates, and/or one or more C6-C24 and notably C12-C20 alkyl ether sulfates; preferably comprising from 2 to 20 ethylene oxide units, particularly in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

[0047] The anionic surfactant(s) are preferably present in the composition according to the invention in a total content ranging from 2% to 30% by weight, notably from 4% to 25% by weight, better still from 5% to 20% by weight and even better still from 6% to 15% by weight relative to the total weight of the composition.

2/ Amphoteric surfactants

[0048] The composition according to the invention also comprises one or more amphoteric surfactants.

[0049] In particular, the amphoteric surfactants are non-silicone surfactants. They may notably be optionally quaternized secondary or tertiary aliphatic amine derivatives, in which the aliphatic group is a linear or branched chain including from 8 to 22 carbon atoms, said amine derivatives containing at least one anionic group, for instance a carboxylate, sulfonate, sulfate, phosphate or phosphonate group.

[0050] Mention may in particular be made of (C_8-C_{20})alkylbetaines, (C_8-C_{20})alkylsulfobetaines, (C_8-C_{20})alkylamido(C_3-C_8)alkylbetaines and (C_8-C_{20})alkylamido(C_6-C_8)alkylsulfobetaines; alone or as a mixture, notably with the compounds mentioned below.

[0051] Among the optionally quaternized derivatives of secondary or tertiary aliphatic amines that may be used, as defined above, mention may also be made of the compounds having the respective structures (II) and (III) below:

$$R_a\text{-}CONHCH_2CH_2\text{-}N^+(R_b)(R_c)\text{-}CH_2COO^-,\ M^+,\ X^- \qquad (II)$$

in which:

- R_a represents a C_{10} to C_{30} alkyl or alkenyl group derived from an acid R_aCOOH preferably present in hydrolysed coconut kernel oil, or a heptyl, nonyl or undecyl group;
- R_b represents a β-hydroxyethyl group; and
- R_c represents a carboxymethyl group;
- M^+ represents a cationic counterion derived from an alkali metal or alkaline-earth metal, such as sodium, an ammonium ion or an ion derived from an organic amine; and
- X^- represents an organic or mineral anionic counterion, such as that chosen from halides, acetates, phosphates, nitrates, (C_1-C_4)alkyl sulfates, (C_1-C_4)alkyl- or (C_1-C_4)alkylaryl-sulfonates, in particular methyl sulfate and ethyl sulfate; or alternatively M^+ and X- are absent;

$$R_{a'}\text{-}CONHCH_2CH_2\text{-}N(B)(B') \qquad (III)$$

in which:

- B represents the group $-CH_2CH_2OX'$;
- B' represents the group $-(CH_2)_zY'$, with z = 1 or 2;
- X' represents the group $-CH_2COOH$, $-CH_2\text{-}COOZ'$, $-CH_2CH_2COOH$ or $CH_2CH_2\text{-}COOZ'$, or a hydrogen atom;
- Y' represents the group -COOH, -COOZ' or $-CH_2CH(OH)SO_3H$ or the group $CH_2CH(OH)SO_3\text{-}Z'$;
- Z' represents a cationic counterion derived from an alkali metal or alkaline-earth metal, such as sodium, an ammonium ion or an ion derived from an organic amine;

- $R_{a'}$ represents a C_{10} to C_{30} alkyl or alkenyl group of an acid $R_{a'}$-COOH which is preferably present in coconut kernel oil or in hydrolysed linseed oil, or an alkyl group, notably a C_{17} group, and its iso form, or an unsaturated C_{17} group.

[0052] These compounds are classified in the CTFA dictionary, 5th edition, 1993, under the names disodium cocoamphodiacetate, disodium lauroamphodiacetate, disodium caprylamphodiacetate, disodium capryloamphodiacetate, disodium cocoamphodipropionate, disodium lauroamphodipropionate, disodium caprylamphodipropionate, disodium capryloamphodipropionate, lauroamphodipropionic acid and cocoamphodipropionic acid.

[0053] By way of example, mention may be made of the cocoamphodiacetate sold by the company Rhodia under the trade name Miranol® C2M Concentrate.

[0054] Use may also be made of compounds of formula (IV):

$$R_{a''}\text{-}NHCH(Y'')\text{-}(CH_2)_nCONH(CH_2)_{n'}\text{-}N(R_d)(R_e) \qquad (IV)$$

in which:

- Y" represents the group -COOH, -COOZ" or -CH_2-CH(OH)SO_3H or the group $CH_2CH(OH)SO_3$-Z";
- R_d and R_e, independently of each other, represent a C_1 to C_4 alkyl or hydroxyalkyl radical;
- Z" represents a cationic counterion derived from an alkali metal or alkaline-earth metal, such as sodium, an ammonium ion or an ion derived from an organic amine;
- $R_{a''}$ represents a C_{10} to C_{30} alkyl or alkenyl group of an acid $R_{a''}$-COOH which is preferably present in coconut kernel oil or in hydrolysed linseed oil;
- n and n' denote, independently of each other, an integer ranging from 1 to 3.

[0055] Among the compounds of formula (IV), mention may be made of the compound classified in the CTFA dictionary under the name sodium diethylaminopropyl cocoaspartamide and sold by the company Chimex under the name Chimexane HB. These compounds may be used alone or as mixtures.

[0056] Among the amphoteric surfactants, use is preferably made of (C_8-C_{20})alkylbetaines such as cocoylbetaine, (C_8-C_{20})alkylamido(C_3-C_8)alkylbetaines such as cocamidopropylbetaine, and mixtures thereof, and the compounds of formula (IV) such as the sodium salt of diethylaminopropyl laurylaminosuccinamate (INCI name: sodium diethylaminopropyl cocoaspartamide). Preferentially, the amphoteric surfactants are chosen from (C_8-C_{20})alkylbetaines, (C_8-C_{20})alkylamido(C_3-C_8)alkylbetaines, and mixtures thereof.

[0057] Preferably, the cosmetic composition according to the invention comprises the amphoteric surfactant(s) in a total content ranging from 0.1% to 20% by weight, preferentially in a content ranging from 0.5% to 15% by weight and better still from 1% to 10% by weight or even from 1.5% to 7.5% by weight relative to the total weight of the composition.

3/ Nonionic surfactants

[0058] The cosmetic composition according to the invention may optionally comprise one or more nonionic surfactants, notably such as those described in the *Handbook of Surfactants* by M.R. Porter, published by Blackie & Son (Glasgow and London), 1991, pages 116-178.

[0059] Examples of nonionic surfactants that may be mentioned include the following compounds, alone or as a mixture:

- oxyalkylenated (C_8-C_{24})alkylphenols;
- saturated or unsaturated, linear or branched, oxyalkylenated or glycerolated C_8-C_{40} alcohols, preferably including one or two fatty chains;
- saturated or unsaturated, linear or branched, oxyalkylenated C_8 to C_{30} fatty acid amides;
- esters of saturated or unsaturated, linear or branched, C_8 to C_{30} acids and of polyethylene glycols;
- preferably oxyethylenated esters of saturated or unsaturated, linear or branched, C_8 to C_{30} acids and of sorbitol;
- esters of fatty acids and of sucrose;
- (C_8-C_{30})alkyl(poly)glucosides, (C_8-C_{30})alkenyl(poly)glucosides, which are optionally oxyalkylenated (0 to 10 oxyalkylene units) and comprise from 1 to 15 glucose units, (C_8-C_{30})alkyl(poly)glucoside esters;
- saturated or unsaturated oxyethylenated plant oils;
- condensates of ethylene oxide and/or of propylene oxide;
- N-(C_8-C_{30})alkylglucamine and N-(C_8-C_{30})acylmethylglucamine derivatives;
- amine oxides.

[0060] The oxyalkylene units are more particularly oxyethylene or oxypropylene units, or a combination thereof, preferably oxyethylene units.

[0061] The number of moles of ethylene oxide and/or of propylene oxide preferably ranges from 1 to 250, more particularly from 2 to 100 and better still from 2 to 50; the number of moles of glycerol notably ranges from 1 to 50 and better still from 1 to 10. Advantageously, the nonionic surfactants according to the invention do not comprise any oxypropylene units.

[0062] Preferably, they comprise a number of moles of ethylene oxide ranging from 1 to 250, notably from 2 to 100 and better still from 2 to 50.

[0063] As examples of glycerolated nonionic surfactants, use is preferably made of monoglycerolated or polyglycerolated C_8 to C_{40} alcohols, comprising from 1 to 50 mol of glycerol and preferably from 1 to 10 mol of glycerol.

[0064] As examples of compounds of this type, 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.

[0065] Among the glycerolated alcohols, it is more particularly preferred to use the C_8 to C_{10} alcohol containing 1 mol of glycerol, the C_{10} to C_{12} alcohol containing 1 mol of glycerol and the C_{12} alcohol containing 1.5 mol of glycerol.

[0066] The nonionic surfactant(s) that may be used in the washing composition according to the invention are preferentially chosen, alone or as a mixture, from:

- saturated or unsaturated, linear or branched, oxyethylenated C_8 to C_{40} alcohols comprising from 1 to 100 mol of ethylene oxide, preferably from 2 to 50 and more particularly from 2 to 40 mol of ethylene oxide; they preferably include one or two fatty chains;
- saturated or unsaturated oxyethylenated plant oils comprising from 1 to 100 and preferably from 2 to 50 mol of ethylene oxide;
- (C_8-C_{30})alkyl(poly)glucosides, which are optionally oxyalkylenated, preferably with 0 to 10 mol of ethylene oxide and comprising 1 to 15 glucose units;
- monoglycerolated or polyglycerolated C_8 to C_{40} alcohols, comprising from 1 to 50 mol of glycerol and preferably from 1 to 10 mol of glycerol;
- saturated or unsaturated, linear or branched, oxyalkylenated C_8 to C_{30} fatty acid amides;
- esters of saturated or unsaturated, linear or branched, C_8 to C_{30} acids and of polyethylene glycols;
- preferably oxyethylenated esters of saturated or unsaturated, linear or branched, C_8 to C_{30} acids and of sorbitol.

[0067] More preferentially, the nonionic surfactant(s) are chosen, alone or as a mixture, from:

- saturated or unsaturated, linear or branched, oxyethylenated C_8 to C_{40} alcohols comprising from 1 to 100 mol of ethylene oxide, preferably from 2 to 50 and more particularly from 2 to 40 mol of ethylene oxide and including one or two fatty chains, notably at least one C8-C20 and notably C10-C18 alkyl chain;
- preferably oxyethylenated esters of saturated or unsaturated, linear or branched, C_8 to C_{30} acids and of sorbitol; and
- (C_8-C_{30})alkyl(poly)glucosides, which are optionally oxyalkylenated, preferably comprising from 0 to 10 mol of ethylene oxide and comprising 1 to 15 glucose units.

[0068] In a particular embodiment, the composition comprises one or more nonionic surfactants of alkyl(poly)glycoside type of general formula:

$$R1O\text{-}(R2O)t\text{-}(G)v$$

in which:

- R1 represents a linear or branched alkyl or alkenyl radical including 6 to 24 carbon atoms and notably 8 to 18 carbon atoms, or an alkylphenyl radical of which the linear or branched alkyl radical includes 6 to 24 carbon atoms and notably 8 to 18 carbon atoms; preferably a saturated or unsaturated, linear or branched alkyl radical including from 8 to 18 carbon atoms;
- R2 represents an alkylene radical including 2 to 4 carbon atoms;
- G represents a sugar unit including 5 to 6 carbon atoms; preferably glucose, fructose or galactose; better still glucose;
- t denotes a value ranging from 0 to 10, preferably 0 to 4, better still from 0 to 3 and even better still 0;
- v denotes a value ranging from 1 to 15 and preferably from 1 to 4; the mean degree of polymerization (v) more particularly being between 1 and 2.

[0069] The glucoside bonds between the sugar units are generally of 1-6 or 1-4 type and preferably of 1-4 type.

[0070] Preferably, the alkyl(poly)glycoside surfactant is an alkyl(poly)glucoside surfactant.

[0071] Preferably, when they are present, the composition according to the invention comprises the nonionic surfactant(s) in a total content ranging from 0.05% to 15% by weight, preferably from 0.1% to 10% by weight and preferentially from 0.2% to 5% by weight, relative to the total weight of the composition according to the invention.

4/ Unsaturated fatty alcohol

[0072] The cosmetic composition according to the invention also comprises one or more unsaturated fatty alcohols.

[0073] The unsaturated fatty alcohols that may be used in the context of the invention preferably comprise from 8 to 32 carbon atoms, notably from 12 to 28 carbon atoms, in particular from 14 to 24 carbon atoms and better still from 16 to 22 carbon atoms. They preferably comprise one or more double and/or triple unsaturations, i.e. one or more carbon-carbon double (C=C) or triple (C≡C) covalent bonds; preferentially one or more double unsaturations, better still only one double unsaturation (and no triple unsaturation).

[0074] Preferably, the unsaturated fatty alcohols are monoalcohols.

[0075] The unsaturated fatty alcohols that may be used in the context of the invention preferably correspond to the formula R-OH

in which R is an unsaturated hydrocarbon-based radical comprising 8 to 32 carbon atoms, notably from 12 to 28 carbon atoms, in particular from 14 to 24 carbon atoms and better still from 16 to 22 carbon atoms; and optionally comprising one or more hydroxyl (OH) groups.

[0076] Preferably, R comprises one or more carbon-carbon double or triple covalent bonds; preferably one or more carbon-carbon double covalent bonds; better still only one carbon-carbon double covalent bond.

[0077] Preferentially, R is an unsaturated hydrocarbon-based radical comprising 8 to 32 carbon atoms, notably from 12 to 28 carbon atoms, in particular from 14 to 24 carbon atoms and better still from 16 to 22 carbon atoms; comprising only one double unsaturation (thus not comprising any triple unsaturations or any additional hydroxyl groups).

[0078] Preferably, the composition comprises one or more unsaturated fatty alcohols that are liquid at 25°C and 1 atm.

[0079] Mention may be made in particular of oleyl alcohol, erucyl alcohol and linoleyl alcohol; and mixtures thereof.

[0080] Preferentially, the unsaturated fatty alcohol is oleyl alcohol.

[0081] The cosmetic composition according to the invention comprises the unsaturated fatty alcohol(s) in a total content of less than 1% by weight, relative to the total weight of the composition.

[0082] Preferably, the cosmetic composition according to the invention comprises the unsaturated fatty alcohol(s) in a total content ranging from 0.01% to 0.90% by weight, notably ranging from 0.02% to 0.80% by weight, better still ranging from 0.05% to 0.50% by weight and even better still ranging from 0.10% to 0.30% by weight, relative to the total weight of the composition.

[0083] Preferably, the composition according to the invention comprises oleyl alcohol in a total content of less than 1 % by weight, relative to the total weight of the composition, notably ranging from 0.01% to 0.90% by weight, for example ranging from 0.02% to 0.80% by weight, better still ranging from 0.05% to 0.50% by weight and even better still ranging from 0.10% to 0.30% by weight, relative to the total weight of the composition.

5/ Cationic polysaccharides

[0084] The cosmetic composition according to the invention also comprises one or more cationic polysaccharides.

[0085] The cationic polysaccharides that may be used in the cosmetic composition according to the invention are notably chosen from associative or non-associative cationic celluloses and galactomannan gums; preferably from non-associative cationic celluloses and galactomannan gums.

[0086] The cationic polysaccharides that may be used preferably have a weight-average molar mass (Mw) of between 500 and 5×10^6 approximately and preferably between 10^3 and 3×10^6 approximately.

[0087] Among the cationic polysaccharides, mention may be made more particularly of cellulose ether derivatives including quaternary ammonium groups, cationic cellulose copolymers or cellulose derivatives grafted with a water-soluble quaternary ammonium monomer and cationic galactomannan gums.

[0088] The cellulose ether derivatives including quaternary ammonium groups are notably described in FR 1 492 597. They are also defined in the CTFA dictionary as quaternary ammoniums of hydroxyethylcellulose that has reacted with an epoxide substituted with a trimethylammonium group.

[0089] Mention may notably be made of the polymers sold under the name Ucare Polymer JR (JR 400 LT, JR 125 and JR 30M) or LR (LR 400 and LR 30M) by the company Amerchol.

[0090] Cationic cellulose copolymers and cellulose derivatives grafted with a water-soluble quaternary ammonium monomer are described notably in patent US 4 131 576; mention may be made of hydroxyalkyl celluloses, for instance hydroxymethyl, hydroxyethyl or hydroxypropyl celluloses notably grafted with a methacryloylethyltrimethylammonium, methacrylamidopropyltrimethylammonium or dimethyldiallylammonium salt. Mention may be made most particularly of

crosslinked or non-crosslinked quaternized hydroxyethylcelluloses, the quaternizing agent notably possibly being diallyldimethylammonium chloride; and most particularly hydroxypropyltrimethylammonium hydroxyethylcellulose.

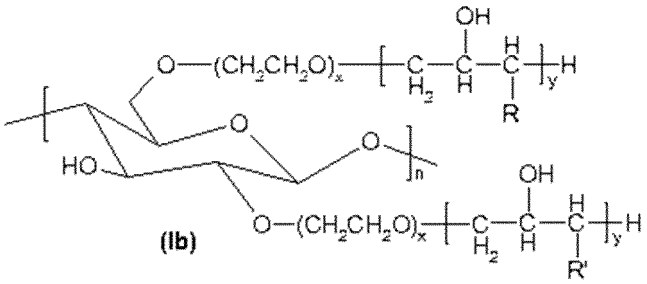
[0091] Among the commercial products corresponding to this definition, mention may be made of the products sold under the names Celquat L 200 and Celquat H 100 by the company National Starch.

[0092] A particularly preferred cationic cellulose that may notably be mentioned is the polymer having the INCI name Polyquaternium-10.

[0093] Among the cationic polysaccharides, mention may also be made of cationic associative celluloses, or quaternized celluloses derivatives, and in particular quaternized celluloses modified with groups including at least one fatty chain, such as linear or branched alkyl groups, linear or branched arylalkyl groups, linear or branched alkylaryl groups, preferably linear or branched alkyl groups, these groups including at least 8 carbon atoms, notably from 8 to 30 carbon atoms, better still from 10 to 24 or even from 10 to 14 carbon atoms; or mixtures thereof.

[0094] Preferably, mention may be made of quaternized hydroxyethylcelluloses modified with groups including at least one fatty chain, such as linear or branched alkyl groups, linear or branched arylalkyl groups, or linear or branched alkylaryl groups, preferably linear or branched alkyl groups, these groups including at least 8 carbon atoms, notably from 8 to 30 carbon atoms, better still from 10 to 24, or even from 10 to 14, carbon atoms; or mixtures thereof.

[0095] Preferentially, mention may be made of the hydroxyethylcelluloses of formula (Ib):



(Ib)

in which:

- R represents an ammonium group RaRbRcN+-, Q- in which Ra, Rb and Rc, which may be identical or different, represent a hydrogen atom or a linear or branched C1-C30 alkyl, and Q- represents an anionic counterion such as a halide, for instance a chloride or bromide; preferably an alkyl;
- R' represents an ammonium group R'aR'bR'cN+-, Q'- in which R'a, R'b and R'c, which may be identical or different, represent a hydrogen atom or a linear or branched C1-C30 alkyl, and Q'- represents an anionic counterion such as a halide, for instance a chloride or bromide; preferably an alkyl;
  it being understood that at least one of the radicals Ra, Rb, Rc, R'a, R'b and R'c represents a linear or branched C8-C30 alkyl;
- n, x and y, which may be identical or different, represent an integer between 1 and 10000.

[0096] Preferably, in formula (Ib), at least one of the radicals Ra, Rb, Rc, R'a, R'b and R'c represents a linear or branched C8-C30, better still C10-C24, or even C10-C14, alkyl; mention may be made in particular of the dodecyl radical (C12). Preferably, the other radical(s) represent a linear or branched C1-C4 alkyl, notably methyl. Preferably, in formula (Ib), only one of the radicals Ra, Rb, Rc, R'a, R'b and R'c represents a linear or branched C8-C30, better still C10-C24, or even C10-C14, alkyl; mention may be made in particular of the dodecyl radical (C12). Preferably, the other radicals represent a linear or branched C1-C4 alkyl, notably methyl. Even better still, R may be a group chosen from $-N^+(CH_3)_3$, Q'^- and $-N^+(C_{12}H_{25})(CH_3)_2$, Q'^-, preferably an $-N^+(CH_3)_3$, Q'^- group.

[0097] Even better still, R' may be a group $-N^+(C_{12}H_{25})(CH_3)_2$, Q'^-.

[0098] The aryl radicals preferably denote phenyl, benzyl, naphthyl or anthryl groups.

[0099] Mention may notably be made of the following polymers having the INCI names:

- Polyquaternium-24, such as the product Quatrisoft LM 200®, sold by the company Amerchol/Dow Chemical;
- PG-Hydroxyethylcellulose Cocodimonium Chloride, such as the product Crodacel QM®;
- PG-Hydroxyethylcellulose Lauryldimonium Chloride (C12 alkyl), such as the product Crodacel QL®; and
- PG-Hydroxyethylcellulose Stearyldimonium Chloride (C18 alkyl), such as the product Crodacel QS®, sold by the company Croda.

[0100] Mention may also be made of the hydroxyethylcelluloses of formula (Ib) in which R represents a trimethylam-

monium halide and R' represents a dimethyldodecylammonium halide; preferentially, R represents trimethylammonium chloride (CH3)3N+-, Cl- and R' represents dimethyldodecylammonium chloride (CH3)2(C12H25)N+-, C!-. This type of polymer is known under the INCI name Polyquaternium-67; as commercial products, mention may be made of the Softcat Polymer SL® polymers, such as SL-100, SL-60, SL-30 and SL-5, from the company Amerchol/Dow Chemical.

[0101] More particularly, the polymers of formula (Ib) are those whose viscosity is between 2000 and 3000 cPs inclusive, preferentially between 2700 and 2800 cPs. Typically, Softcat Polymer SL-5 has a viscosity of 2500 cPs, Softcat Polymer SL-30 has a viscosity of 2700 cPs, Softcat Polymer SL-60 has a viscosity of 2700 cPs and Softcat Polymer SL-100 has a viscosity of 2800 cPs;

[0102] The cationic galactomannan gums are notably described in patents US 3 589 578 and US 4 031 307; mention may be made of cationic guar gums, notably those comprising cationic trialkylammonium groups, notably trimethylammonium. Mention may thus be made of guar gums modified with a 2,3-epoxypropyltrimethylammonium salt (for example a chloride).

[0103] Preferably, 2% to 30% by number of the hydroxyl functions of the guar gums bear trialkylammonium cationic groups. Even more preferentially, 5% to 20% by number of the hydroxyl functions of these guar gums are branched with trialkylammonium cationic groups. Among these trialkylammonium groups, mention may most particularly be made of the trimethylammonium and triethylammonium groups. Even more preferentially, these groups represent from 5% to 20% by weight relative to the total weight of the modified guar gum. Guar gums modified with 2,3-epoxypropyltrimethylammonium chloride may be used according to the invention. Mention may be made in particular of the products having the INCI names Hydroxypropyl guar hydroxypropyltrimonium chloride and Guar hydroxypropyltrimonium chloride. Such products are notably sold under the names Jaguar C13S, Jaguar C15, Jaguar C17 or Jaguar C162 by the company Rhodia.

[0104] Among the cationic polysaccharides that may be used, mention may also be made of cationic derivatives of cassia gum, notably those including quaternary ammonium groups; in particular, mention may be made of the product having the INCI name Cassia hydroxypropyltrimonium chloride.

[0105] Preferentially, the composition according to the invention comprises one or more cationic galactomannan gums, notably one or more cationic guar gums.

[0106] The cosmetic composition according to the invention may comprise the cationic polysaccharide(s) in a total amount ranging from 0.01% to 10% by weight, better still from 0.05% to 5% by weight and even better still from 0.1% to 2% by weight, relative to the total weight of the composition.

6/ Additional cationic polymers

[0107] The cosmetic composition according to the invention may also optionally comprise one or more additional cationic polymers other than the above cationic polysaccharides.

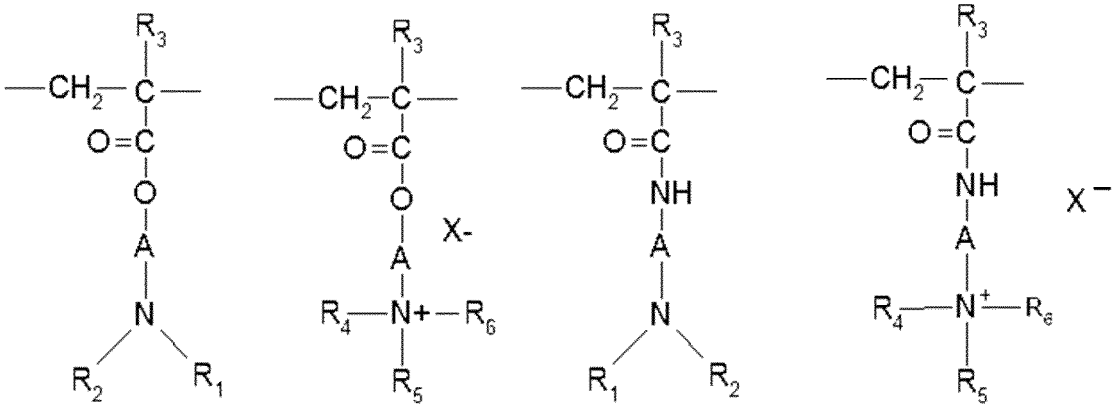
[0108] For the purposes of the present invention, the expression "additional cationic polymer" denotes any non-saccharide and non-silicone (not comprising any silicon atoms) polymer containing cationic groups and/or groups that can be ionized into cationic groups and not containing any anionic groups and/or groups that can be ionized into anionic groups.

[0109] The additional cationic polymers that may be used preferably have a weight-average molar mass (Mw) of between 500 and 5×10^6 approximately and preferably between 10^3 and 3×10^6 approximately.

[0110] These polymers are preferably of ethylenic type, or even (meth)acrylic type.

[0111] Mention may be made more particularly of:

(1) homopolymers or copolymers derived from acrylic or methacrylic esters or amides and including at least one of the units having the following formula:



in which:

- R3, which may be identical or different, denote a hydrogen atom or a CH3 radical;
- A, which may be identical or different, represent a linear or branched divalent alkyl group of 1 to 6 carbon atoms, preferably 2 or 3 carbon atoms, or a hydroxyalkyl group of 1 to 4 carbon atoms;
- R4, R5 and R6, which may be identical or different, represent an alkyl group containing from 1 to 18 carbon atoms or a benzyl radical, preferably an alkyl group containing from 1 to 6 carbon atoms;
- R1 and R2, which may be identical or different, represent a hydrogen atom or an alkyl group containing from 1 to 6 carbon atoms, preferably methyl or ethyl;
- X denotes an anion derived from a mineral or organic acid, such as a methosulfate anion or a halide such as chloride or bromide.

[0112] The copolymers of family (1) may also contain one or more units derived from comonomers that may be chosen from the family of acrylamides, methacrylamides, diacetone acrylamides, acrylamides and methacrylamides substituted on the nitrogen with lower (C1-C4) alkyls, acrylic or methacrylic acid esters, vinyllactams such as vinylpyrrolidone or vinylcaprolactam, and vinyl esters.

[0113] Among these copolymers of family (1), mention may be made of:

- copolymers of acrylamide and of dimethylaminoethyl methacrylate quaternized with dimethyl sulfate or with a dimethyl halide, such as that sold under the name Hercofloc by the company Hercules,
- copolymers of acrylamide and of methacryloyloxyethyltrimethylammonium chloride, such as the products sold under the name Bina Quat P 100 by the company Ciba Geigy,
- the copolymer of acrylamide and of methacryloyloxyethyltrimethylammonium methosulfate, such as that sold under the name Reten by the company Hercules,
- quaternized or non-quaternized vinylpyrrolidone/dialkylaminoalkyl acrylate or methacrylate copolymers, such as the products sold under the name Gafquat by the company ISP, for instance Gafquat 734 or Gafquat 755, or alternatively the products known as Copolymer 845, 958 and 937. These polymers are described in detail in French patents 2 077 143 and 2 393 573;
- dimethylaminoethyl methacrylate/vinylcaprolactam/vinylpyrrolidone terpolymers, such as the product sold under the name Gaffix VC 713 by the company ISP,
- vinylpyrrolidone/methacrylamidopropyldimethylamine copolymers, such as the copolymers sold under the name Styleze CC 10 by ISP;
- quaternized vinylpyrrolidone/dimethylaminopropylmethacrylamide copolymers such as the product sold under the name Gafquat HS 100 by the company ISP,
- preferably crosslinked polymers of methacryloyloxy(C1-C4)alkyltri(C1-C4)alkylammonium salts, such as the polymers obtained by homopolymerization of dimethylaminoethyl methacrylate quaternized with methyl chloride, or by copolymerization of acrylamide with dimethylaminoethyl methacrylate quaternized with methyl chloride, the homopolymerization or copolymerization being followed by crosslinking with an olefinically unsaturated compound, in particular methylenebisacrylamide. Use may be made more particularly of a crosslinked acrylamide/methacryloyloxyethyltrimethylammonium chloride copolymer (20/80 by weight) in the form of a dispersion comprising 50% by weight of said copolymer in mineral oil. This dispersion is sold under the name Salcare® SC 92 by the company Ciba. Use may also be made of a crosslinked methacryloyloxyethyltrimethylammonium chloride homopolymer comprising approximately 50% by weight of the homopolymer in mineral oil or in a liquid ester. These dispersions are

sold under the names Salcare® SC 95 and Salcare® SC 96 by the company Ciba.

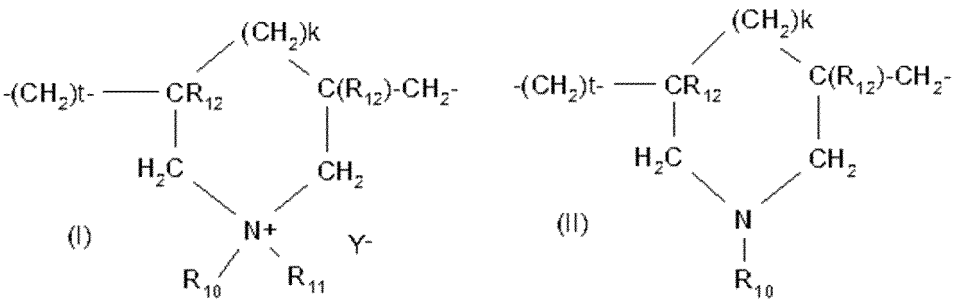
[0114] (2) polymers constituted of piperazinyl units and divalent alkylene or hydroxyalkylene radicals containing linear or branched chains, optionally interrupted with oxygen, sulfur or nitrogen atoms or with aromatic or heterocyclic rings, and also the oxidation and/or quaternization products of these polymers.

[0115] (3) water-soluble polyaminoamides prepared in particular by polycondensation of an acidic compound with a polyamine; these polyaminoamides may be crosslinked with an epihalohydrin, a diepoxide, a dianhydride, an unsaturated dianhydride, a bis-unsaturated derivative, a bis-halohydrin, a bis-azetidinium, a bis-haloacyldiamine, a bis-alkyl halide or alternatively with an oligomer resulting from the reaction of a difunctional compound which is reactive with a bis-halohydrin, a bis-azetidinium, a bis-haloacyldiamine, a bis-alkyl halide, an epihalohydrin, a diepoxide or a bis-unsaturated derivative; the crosslinking agent being used in proportions ranging from 0.025 to 0.35 mol per amine group of the polyaminoamide; these polyaminoamides may be alkylated or, if they include one or more tertiary amine functions, they may be quaternized.

[0116] (4) polyaminoamide derivatives resulting from the condensation of polyalkylene polyamines with polycarboxylic acids followed by alkylation with difunctional agents. Mention may be made, for example, of adipic acid/dialkylaminohydroxyalkyldialkylenetriamine polymers in which the alkyl radical includes from 1 to 4 carbon atoms and preferably denotes methyl, ethyl or propyl. Among these derivatives, mention may be made more particularly of the adipic acid/dimethylaminohydroxypropyl/diethylenetriamine polymers sold under the name Cartaretine F, F4 or F8 by the company Sandoz.

[0117] (5) polymers obtained by reacting a polyalkylene polyamine including two primary amine groups and at least one secondary amine group with a dicarboxylic acid chosen from diglycolic acid and saturated aliphatic dicarboxylic acids containing from 3 to 8 carbon atoms; the mole ratio between the polyalkylene polyamine and the dicarboxylic acid preferably being between 0.8:1 and 1.4:1; the resulting polyaminoamide being reacted with epichlorohydrin in a mole ratio of epichlorohydrin relative to the secondary amine group of the polyaminoamide preferably of between 0.5:1 and 1.8:1. Polymers of this type are sold in particular under the name Hercosett 57 by the company Hercules Inc. or else under the name PD 170 or Delsette 101 by the company Hercules in the case of the adipic acid/epoxypropyl/diethylenetriamine copolymer.

[0118] (6) alkyldiallylamine or dialkyldiallylammonium cyclopolymers, such as homopolymers or copolymers including, as main constituent of the chain, units corresponding to formula (I) or (II):

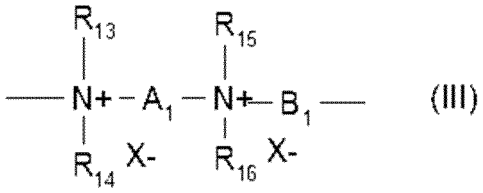


in which

- k and t are equal to 0 or 1, the sum k + t being equal to 1;
- R12 denotes a hydrogen atom or a methyl radical;
- R10 and R11, independently of each other, denote a C1-C6 alkyl group, a C1-C5 hydroxyalkyl group, a C1-C4 amidoalkyl group; or alternatively R10 and R11 may denote, together with the nitrogen atom to which they are attached, a heterocyclic group such as piperidyl or morpholinyl; R10 and R11, independently of each other, preferably denote a C1-C4 alkyl group;
- Y^- is an anion such as bromide, chloride, acetate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate or phosphate.

[0119] Mention may be made more particularly of the homopolymer of dimethyldiallylammonium salts (for example chloride) for example having the INCI name Polyquaternium-6, in particular sold under the name Merquat 100, and the copolymers of diallyldimethylammonium salts (for example chloride) and of acrylamide, for example having the INCI name Polyquaternium-7 and in particular sold under the name Merquat 550 or Merquat 7SPR.

[0120] (7) quaternary diammonium polymers comprising repeating units of formula:



(III)

in which:

- R13, R14, R15 and R16, which may be identical or different, represent aliphatic, alicyclic or arylaliphatic radicals comprising from 1 to 20 carbon atoms or C1-C12 hydroxyalkyl aliphatic radicals,

  or else R13, R14, R15 and R16, together or separately, constitute, with the nitrogen atoms to which they are attached, heterocycles optionally comprising a second non-nitrogen heteroatom;
  or else R13, R14, R15 and R16 represent a linear or branched C1-C6 alkyl radical substituted with a nitrile, ester, acyl, amide or -CO-O-R17-D or -CO-NH-R17-D group, where R17 is an alkylene and D is a quaternary ammonium group;

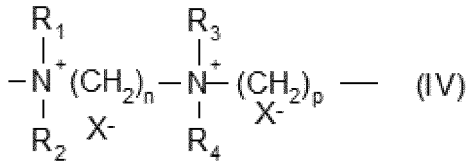
- A1 and B1 represent linear or branched, saturated or unsaturated, divalent polymethylene groups comprising from 2 to 20 carbon atoms, which may contain, linked to or intercalated in the main chain, one or more aromatic rings or one or more oxygen or sulfur atoms or sulfoxide, sulfone, disulfide, amino, alkylamino, hydroxyl, quaternary ammonium, ureido, amide or ester groups, and
- X^- denotes an anion derived from a mineral or organic acid;

  it being understood that A1, R13 and R15 can form, with the two nitrogen atoms to which they are attached, a piperazine ring;
  in addition, if A1 denotes a linear or branched, saturated or unsaturated alkylene or hydroxyalkylene radical, B1 may also denote a group (CH2)n-CO-D-OC-(CH2)p-with n and p, which may be identical or different, being integers ranging from 2 to 20, and D denoting:

  a) a glycol residue of formula -O-Z-O-, in which Z denotes a linear or branched hydrocarbon-based radical or a group corresponding to one of the following formulae: -(CH2CH2O)x-CH2CH2- and -[CH2CH(CH3)O]y-CH2CH(CH3)-, in which x and y denote an integer from 1 to 4, representing a defined and unique degree of polymerization or any number from 1 to 4 representing an average degree of polymerization;
  b) a bis-secondary diamine residue, such as a piperazine derivative;
  c) a bis-primary diamine residue of formula -NH-Y-NH-, in which Y denotes a linear or branched hydrocarbon-based radical, or else the divalent radical -CH2-CH2-S-S-CH2-CH2-;
  d) a ureylene group of formula -NH-CO-NH-.

[0121] Preferably, X^- is an anion, such as chloride or bromide. These polymers have a number-average molar mass (Mn) generally of between 1000 and 100 000.

[0122] Mention may be made more particularly of polymers that are constituted of repeating units corresponding to the formula:

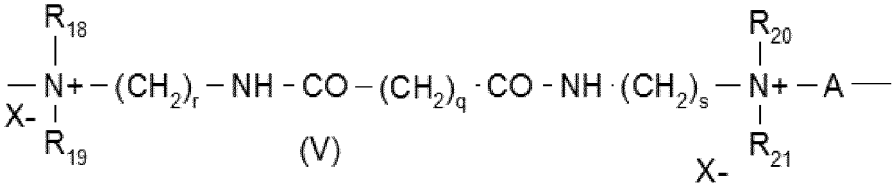


(IV)

in which R1, R2, R3 and R4, which may be identical or different, denote an alkyl or hydroxyalkyl radical containing from 1 to 4 carbon atoms, n and p are integers ranging from 2 to 20, and X- is an anion derived from a mineral or organic acid.

[0123] A particularly preferred compound of formula (IV) is the one for which R1, R2, R3 and R4 represent a methyl radical and n = 3, p = 6 and X = C!, known as Hexadimethrine chloride according to the INCI (CTFA) nomenclature.

[0124] (8) polyquaternary ammonium polymers comprising units of formula (V):



(V)

in which:

- R18, R19, R20 and R21, which may be identical or different, represent a hydrogen atom or a methyl, ethyl, propyl, β-hydroxyethyl, β-hydroxypropyl or
- CH2CH2(OCH2CH2)pOH radical, in which p is equal to 0 or an integer between 1 and 6, with the proviso that R18, R19, R20 and R21 do not simultaneously represent a hydrogen atom,
- r and s, which may be identical or different, are integers between 1 and 6,
- q is equal to 0 or to an integer between 1 and 34,
- X- denotes an anion such as a halide,
- A denotes a divalent dihalide radical or preferably represents -CH2-CH2-O-CH2-CH2-.

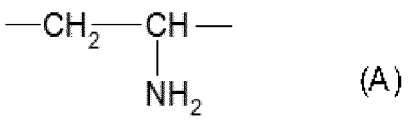
[0125] Examples that may be mentioned include the products Mirapol® A 15, Mirapol® AD1, Mirapol® AZ1 and Mirapol® 175 sold by the company Miranol.

[0126] (9) quaternary polymers of vinylpyrrolidone and of vinylimidazole, for instance the products sold under the names Luviquat® FC 905, FC 550 and FC 370 by the company BASF.

[0127] (10) polyamines such as Polyquart® H sold by Cognis, referred to under the name Polyethylene glycol (15) tallow polyamine in the CTFA dictionary.

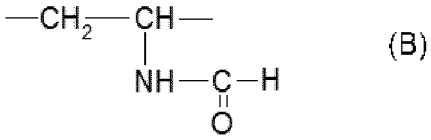
[0128] (11) polymers including in their structure:

(a) one or more units corresponding to formula (A) below:



(A)

(b) optionally one or more units corresponding to formula (B) below:



(B)

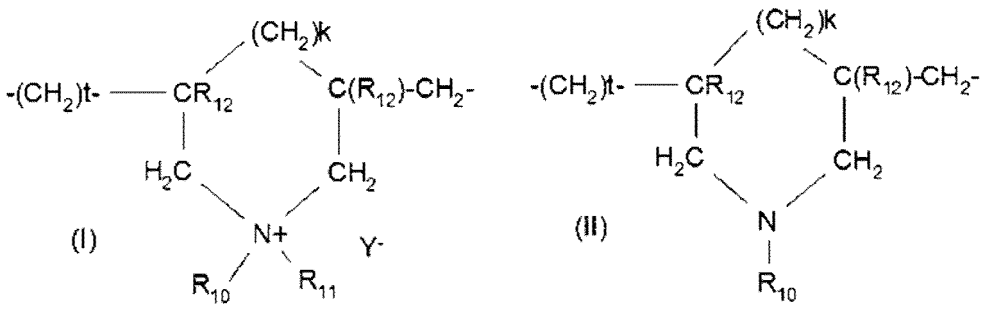
[0129] In other words, these polymers may be notably chosen from homopolymers or copolymers including one or more units derived from vinylamine and optionally one or more units derived from vinylformamide.

[0130] Preferably, these cationic polymers are chosen from polymers including, in their structure, from 5 mol% to 100 mol% of units corresponding to formula (A) and from 0 to 95 mol% of units corresponding to formula (B), preferentially from 10 mol% to 100 mol% of units corresponding to formula (A) and from 0 to 90 mol% of units corresponding to formula (B).

[0131] These polymers may be obtained, for example, by partial hydrolysis of polyvinylformamide. This hydrolysis may take place in acidic or basic medium. The weight-average molecular mass of said polymer, measured by light scattering, may range from 1000 to 3 000 000 g/mol, preferably from 10 000 to 1 000 000 and more particularly from 100 000 to 500 000 g/mol.

[0132] The polymers including units of formula (A) and optionally units of formula (B) are notably sold under the name Lupamin by the company BASF, for instance, in a nonlimiting manner, the products provided under the names Lupamin 9095, Lupamin 5095, Lupamin 1095, Lupamin 9030 (or Luviquat 9030) and Lupamin 9010.

[0133] Preferably, the additional cationic polymers are chosen from those of families (1) and (6) mentioned above, better still from those of family (6), and preferentially from homopolymers or copolymers including, as main constituent of the chain, units of formula (I) or (II):



in which:

- k and t are equal to 0 or 1, the sum k + t being equal to 1;
- R12 denotes a hydrogen atom or a methyl radical;
- R10 and R11, independently of each other, denote a C1-C6 alkyl group, a C1-C5 hydroxyalkyl group, a C1-C4 amidoalkyl group; or alternatively R10 and R11 may denote, together with the nitrogen atom to which they are attached, a heterocyclic group such as piperidyl or morpholinyl; R10 and R11, independently of each other, preferably denote a C1-C4 alkyl group;
- Y^- is an anion such as bromide, chloride, acetate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate or phosphate.

[0134] Mention may be made more particularly of the homopolymer of dimethyldiallylammonium salts (for example chloride) (Polyquaternium-6) and copolymers of diallyldimethylammonium salts (for example chloride) and of acrylamide (Polyquaternium-7).

[0135] The composition according to the invention may comprise said additional cationic polymer(s) in a total amount ranging from 0.01% to 5% by weight relative to the total weight of the composition, preferably from 0.02% to 4% by weight, better still from 0.05% to 2% by weight and preferentially from 0.08% to 1% by weight, relative to the total weight of the composition.

7/ Additional ethers

[0136] The composition according to the invention may optionally comprise one or more alcohol ethers; preferably, said ethers comprise in total from 12 to 40 carbon atoms. These ethers may be obtained from two different fatty alcohols or from two identical fatty alcohols. In particular, the alcohol may comprise from 6 to 20 carbon atoms, preferably from 8 to 12 and better still from 8 to 10 carbon atoms.

[0137] Preferably, the ethers are obtained from two identical fatty alcohols.

[0138] Preferably, said fatty alcohols are caprylyl alcohol (or 1-octanol).

[0139] The composition may thus advantageously comprise dicaprylyl ether (or dioctyl ether), such as the product sold under the name Cetiol OE by the company Cognis.

[0140] When they are present, said ethers may be present in the composition according to the invention in a content ranging from 0.05% to 5% by weight, notably from 0.1% to 2% by weight or even from 0.2% to 1% by weight, relative to the total weight of the composition.

8/ Other ingredients

[0141] The composition according to the invention is preferably aqueous and may comprise water in an amount preferably ranging from 50% to 98% by weight, notably from 60% to 95% by weight, better still from 70% to 90% by weight, or even from 75% to 85% by weight, relative to the total weight of the composition.

[0142] The composition may also comprise one or more organic solvents that are liquid at 25°C and 1 atm. and notably water-soluble, such as C1-C6 alcohols, notably C1-C6 aliphatic or aromatic monoalcohols; C3-C7 polyols such as glycerol; glycols such as butylene glycol, isoprene glycol or propylene glycol; and C3-C7 polyol ethers, which may thus be used alone or as a mixture with water. Advantageously, the organic solvent may be chosen from ethanol and isopropanol, and mixtures thereof.

[0143] The pH of the composition according to the invention is advantageously between 3 and 9, preferentially between 3.5 and 7 or even between 4.5 and 6.5.

[0144] Preferably, the composition according to the invention does not comprise any (less than 0.1% by weight, preferably 0%) silicone compound, i.e. compound comprising at least one silicon atom. The composition is then said to be "silicone-free".

[0145] The cosmetic composition according to the invention may be in any presentation form conventionally used and notably in the form of an aqueous, alcoholic or aqueous-alcoholic or oily solution or suspension; a solution or dispersion of the lotion or serum type; an emulsion, an aqueous or anhydrous gel, or any other cosmetic form.

[0146] The cosmetic composition according to the invention notably finds a particularly advantageous application in the field of body and/or hair hygiene, notably for cleansing the hair and/or the scalp.

[0147] It may thus constitute a shampoo or a shower gel, or alternatively a mask to be rinsed off. Preferably, the composition according to the invention is a shampoo.

[0148] The cosmetic composition may be rinsed off or left on after having been applied to the keratin materials; it is preferably rinsed off, after an optional leave-on time which may be from a few seconds to a few minutes (for example 10 seconds to 5 minutes).

[0149] A subject of the invention is also a cosmetic treatment process, notably a hair treatment process, for caring for and/or cleansing keratin materials, notably the hair, comprising the application to said keratin materials of a cosmetic composition according to the invention, optionally followed by rinsing, after an optional leave-on time.

[0150] The invention notably relates to a cosmetic process for cleansing soiling residues from human keratin materials, in which a composition according to the invention is applied to said keratin materials in the presence of water, it is massaged to form a foam, and the foam formed and the soiling residues are then removed by rinsing with water.

[0151] The present invention is illustrated in greater detail in the examples that follow, in which the amounts are expressed as weight percentages of active material (weight % AM), unless otherwise indicated.

Example 1

[0152] The washing compositions (shampoo) below according to the invention are prepared:

[Table 1]

Ingredients	**Composition A (weight % AM)**	**Composition B (weight % AM)**
Sodium laureth sulfate	9.8	9.8
Cocoyl betaine	3.5	3.5
Oleyl alcohol	0.175	0.175
Hydroxypropyl guar hydroxypropyltrimonium chloride	0.2	0.2
Polyquaternium 7	0.1	0.1
NaCl	0.75	0.75
Dicaprylyl ether	0.35	0.3
PEG-60 hydrogenated castor oil	0.5	-
PPG-5-ceteth-20	0.7	0.7
Propylene glycol	0.2	0.2
PEG-55 propylene glycol oleate	0.2	0.2
pH agent	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3
Preserving agents, fragrance, dye	qs	qs
Water	qs 100%	qs 100%

[0153] Transparent compositions which have good cosmetic properties and which may be used for washing the hair are obtained. The viscosity of these compositions (cF8 at 25°C) is between 60 and 90 seconds.

Example 2

[0154] The washing compositions (shampoo) below according to the invention are prepared:

[Table 2]

Ingredients	Composition C (weight % AM)	Composition D (weight % AM)
Sodium laureth sulfate	9.8	9.8
Cocoyl betaine	3.5	3.5
Oleyl alcohol	0.175	0.175
Hydroxypropyl guar hydroxypropyltrimonium chloride	0.2	0.2
Polyquaternium 7	0.1	0.1
NaCl	0.75	0.75
Dicaprylyl ether	0.35	0.35
Fatty substance (*Ricinus communis* castor seed oil) and (*Theobroma cacao* seed butter)	0.02	-
PPG-5-ceteth-20	0.7	0.6
Propylene glycol	0.2	0.2
PEG-55 propylene glycol oleate	0.2	0.2
Glycerol	-	2
pH agent	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3
Preserving agents, fragrance	qs	qs
Water	qs 100%	qs 100%

[0155] Transparent compositions which have good cosmetic properties and which may be used for washing the hair are obtained. The viscosity of these compositions (cF8 at 25°C) is between 60 and 90 seconds.

Example 3

[0156] The washing compositions below are prepared:

[Table 3]

Ingredients	Composition E Invention	Comparative Composition E'
Sodium laureth sulfate	9.8	9.8
Cocoyl betaine	3.5	3.5
Oleyl alcohol	**0.2**	**1.0**
Hydroxypropyl guar hydroxypropyltrimonium chloride	0.2	0.2
Polyquaternium 7	0.1	0.1
NaCl	0.75	0.75
Dicaprylyl ether	0.35	0.35
PPG-5-ceteth-20	0.2	0.2
pH agent	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3
Preserving agents, fragrance	qs	qs
Water	qs 100%	qs 100%

[0157] Composition E according to the invention has a clear appearance, whereas comparative composition E' has a cloudy appearance.

Example 4

[0158] The washing compositions below are prepared:

[Table 4]

Ingredients	Composition F	Composition F'	Composition F"	Composition F‴	Composition F⁗
Sodium laureth sulfate	9.8	9.8	9.8	9.8	9.8
Cocoyl betaine	3.5	3.5	3.5	3.5	3.5
Oleyl alcohol	0.175	-	-	-	-
Octyldodecanol	-	0.5	-	-	-
Virgin olive oil	-	-	0.175	-	-
Soybean oil (*Glycine soja* oil)	-	-	-	0.175	-
Cetearyl alcohol	-	-	-	-	0.175
Hydroxypropyl guar hydroxypropyltrimonium chloride	0.2	0.2	0.2	0.2	0.2
Polyquaternium 7	0.1	0.1	0.1	0.1	0.1
Propylene glycol	0.2	0.2	0.2	0.2	0.2
NaCl	0.75	0.75	0.75	0.75	0.75
Dicaprylyl ether	0.35	0.35	0.35	0.35	0.35
PPG-5-ceteth-20	0.5	0.5	0.5	0.5	0.5
PEG-55 propylene glycol oleate	0.2	0.2	0.2	0.2	0.2
pH agent	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3	qs pH 5.3 ± 0.3
Preserving agents, fragrance	qs	qs	qs	qs	qs
Water	qs 100%	qs 100%	qs 100%	qs 100%	qs 100%
Transmittance (%)	98.5	0.155	0.397	0.231	

[0159] It is observed that the composition according to the invention has a clear appearance (98.5% transmittance), whereas the comparative compositions are cloudy.

Claims

1. Cosmetic composition, notably a hair composition, comprising:

- one or more anionic surfactants,
- one or more amphoteric surfactants,
- one or more cationic polysaccharides, and
- one or more unsaturated fatty alcohols, in a total content of less than 1% by weight relative to the total weight of the composition;

said composition being clear.

2. Composition according to Claim 1, in which the anionic surfactants are chosen, alone or as a mixture, from:

- C6-C24 and notably C12-C20 alkyl sulfates;
- C6-C24 and notably C12-C20 alkyl ether sulfates; preferably comprising from 2 to 20 ethylene oxide units;
- C6-C24 and notably C12-C20 alkylsulfosuccinates, notably laurylsulfosuccinates;

- C6-C24 and notably C12-C20 olefin sulfonates;
- C6-C24 and notably C12-C20 alkyl ether sulfosuccinates;
- (C6-C24)acylisethionates and preferably (C12-C18)acylisethionates;
- C6-C24 and notably C12-C20 acylsarcosinates; notably palmitoylsarcosinates;
- (C6-C24)alkyl ether carboxylates, preferably (C12-C20)alkyl ether carboxylates; in particular those including from 2 to 50 ethylene oxide groups;
- polyoxyalkylenated (C6-C24)alkylamido ether carboxylic acids and salts thereof, in particular those including from 2 to 50 alkylene oxide and in particular ethylene oxide groups;
- C6-C24 and notably C12-C20 acylglutamates;
- C6-C24 and notably C12-C20 acylglycinates;

in particular in acid form or in the form of alkali metal or alkaline-earth metal, ammonium or amino alcohol salts.

3. Composition according to one of the preceding claims, comprising the anionic surfactant(s) in a total amount ranging from 2% to 30% by weight, notably from 4% to 25% by weight, better still from 5% to 20% by weight and even better still from 6% to 15% by weight, relative to the total weight of the composition.

4. Composition according to one of the preceding claims, in which the amphoteric surfactants are chosen from (C8-C20)alkylbetaines such as cocoyl betaine, (C8-C20)alkylamido(C3-C8)alkylbetaines such as cocamidopropyl-betaine, and mixtures thereof, and the compounds of formula (IV):

$$R_{a''}\text{-NHCH(Y")-}(CH_2)_n\text{CONH}(CH_2)_{n'}\text{-N}(R_d)(R_e) \qquad \text{(IV)}$$

in which:

- Y" represents the group -COOH, -COOZ" or $-CH_2$-CH(OH)SO_3H or the group CH_2CH(OH)SO_3-Z";
- R_d and R_e, independently of each other, represent a C_1 to C_4 alkyl or hydroxyalkyl radical;
- Z" represents a cationic counterion derived from an alkali metal or alkaline-earth metal, such as sodium, an ammonium ion or an ion derived from an organic amine;
- $R_{a''}$ represents a C_{10} to C_{30} alkyl or alkenyl group of an acid $R_{a''}$-COOH which is preferably present in coconut kernel oil or in hydrolysed linseed oil;
- n and n' denote, independently of each other, an integer ranging from 1 to 3;

such as the sodium salt of diethylaminopropyl laurylaminosuccinamate.

5. Composition according to one of the preceding claims, comprising the amphoteric surfactant(s) in a total content ranging from 0.1% to 20% by weight, preferentially in a content ranging from 0.5% to 15% by weight, better still from 1% to 10% by weight, or even from 1.5% to 7.5% by weight, relative to the total weight of the composition.

6. Composition according to one of the preceding claims, in which the unsaturated fatty alcohol(s) correspond to the formula R-OH in which R is an unsaturated hydrocarbon-based radical comprising 8 to 32 carbon atoms, notably from 12 to 28 carbon atoms, in particular from 14 to 24 carbon atoms and better still from 16 to 22 carbon atoms; and optionally comprising one or more hydroxyl (OH) groups; preferably, R is an unsaturated hydrocarbon-based radical comprising 8 to 32 carbon atoms, notably from 12 to 28 carbon atoms, in particular from 14 to 24 carbon atoms and better still from 16 to 22 carbon atoms and comprising only one double unsaturation.

7. Composition according to one of the preceding claims, in which the unsaturated fatty alcohol(s) are chosen from oleyl alcohol, erucyl alcohol and linoleyl alcohol, and mixtures thereof; preferentially, the unsaturated fatty alcohol is oleyl alcohol.

8. Composition according to one of the preceding claims, comprising the unsaturated fatty alcohol(s) in a total content ranging from 0.01% to 0.90% by weight, notably ranging from 0.02% to 0.80% by weight, better still ranging from 0.05% to 0.50% by weight, and even better still ranging from 0.1% to 0.30% by weight, relative to the total weight of the composition.

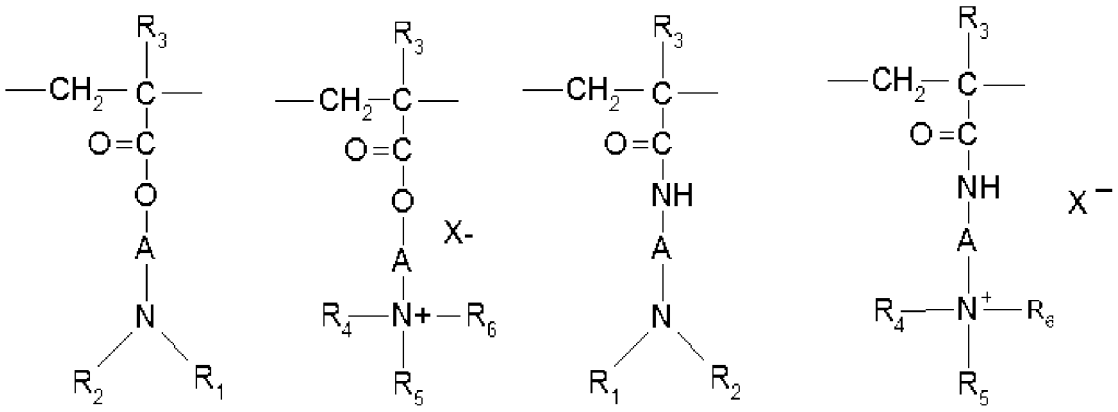
9. Composition according to one of the preceding claims, in which the cationic polysaccharide(s) are chosen from associative or non-associative cationic celluloses and galactomannan gums; preferably from cellulose ether derivatives including quaternary ammonium groups, cationic cellulose copolymers, cellulose derivatives grafted with a

water-soluble quaternary ammonium monomer; cationic guar gums, notably those comprising trialkylammonium, notably trimethylammonium, cationic groups; cationic derivatives of cassia gum, notably those including quaternary ammonium groups; preferentially chosen from cationic galactomannan gums, notably cationic guar gums.

10. Composition according to one of the preceding claims, comprising the cationic polysaccharide(s) in a total amount ranging from 0.01% to 10% by weight, better still from 0.05% to 5% by weight, even better still from 0.1% to 2% by weight, relative to the total weight of the composition.

11. Composition according to one of the preceding claims, comprising one or more additional cationic polymers other than cationic polysaccharides, preferably chosen from:

(1) homopolymers or copolymers derived from acrylic or methacrylic esters or amides and including at least one of the units having the following formula:



in which:

- R3, which may be identical or different, denote a hydrogen atom or a CH3 radical;
- A, which may be identical or different, represent a linear or branched divalent alkyl group of 1 to 6 carbon atoms, preferably 2 or 3 carbon atoms, or a hydroxyalkyl group of 1 to 4 carbon atoms;
- R4, R5 and R6, which may be identical or different, represent an alkyl group containing from 1 to 18 carbon atoms or a benzyl radical, preferably an alkyl group containing from 1 to 6 carbon atoms;
- R1 and R2, which may be identical or different, represent a hydrogen atom or an alkyl group containing from 1 to 6 carbon atoms, preferably methyl or ethyl;
- X denotes an anion derived from a mineral or organic acid, such as a methosulfate anion or a halide such as chloride or bromide;

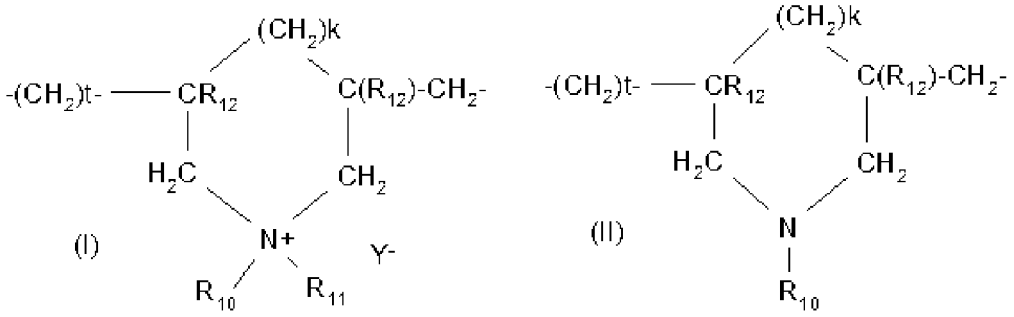
(2) polymers constituted of piperazinyl units and divalent alkylene or hydroxyalkylene radicals containing linear or branched chains, optionally interrupted with oxygen, sulfur or nitrogen atoms or with aromatic or heterocyclic rings, and also the oxidation and/or quaternization products of these polymers;

(3) water-soluble polyaminoamides prepared in particular by polycondensation of an acidic compound with a polyamine; these polyaminoamides may be crosslinked with an epihalohydrin, a diepoxide, a dianhydride, an unsaturated dianhydride, a bis-unsaturated derivative, a bis-halohydrin, a bis-azetidinium, a bis-haloacyldiamine, a bis-alkyl halide or alternatively with an oligomer resulting from the reaction of a difunctional compound which is reactive with a bis-halohydrin, a bis-azetidinium, a bis-haloacyldiamine, a bis-alkyl halide, an epihalohydrin, a diepoxide or a bis-unsaturated derivative; the crosslinking agent being used in proportions ranging from 0.025 to 0.35 mol per amine group of the polyaminoamide; these polyaminoamides may be alkylated or, if they include one or more tertiary amine functions, they may be quaternized.

(4) polyaminoamide derivatives resulting from the condensation of polyalkylene polyamines with polycarboxylic acids followed by alkylation with difunctional agents;

(5) polymers obtained by reacting a polyalkylene polyamine including two primary amine groups and at least one secondary amine group with a dicarboxylic acid chosen from diglycolic acid and saturated aliphatic dicarboxylic acids containing from 3 to 8 carbon atoms; the mole ratio between the polyalkylene polyamine and the dicarboxylic acid preferably being between 0.8:1 and 1.4:1; the resulting polyaminoamide being reacted with

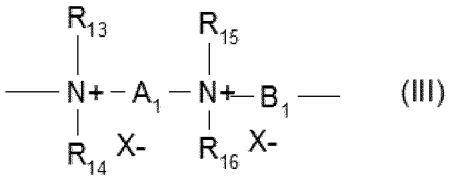
epichlorohydrin in a mole ratio of epichlorohydrin relative to the secondary amine group of the polyaminoamide preferably of between 0.5:1 and 1.8:1;
(6) alkyldiallylamine or dialkyldiallylammonium cyclopolymers, such as homopolymers or copolymers including, as main constituent of the chain, units corresponding to formula (I) or (II):



in which

- k and t are equal to 0 or 1, the sum k + t being equal to 1;
- R12 denotes a hydrogen atom or a methyl radical;
- R10 and R11, independently of each other, denote a C1-C6 alkyl group, a C1-C5 hydroxyalkyl group, a C1-C4 amidoalkyl group; or alternatively R10 and R11 may denote, together with the nitrogen atom to which they are attached, a heterocyclic group such as piperidyl or morpholinyl; R10 and R11, independently of each other, preferably denote a C1-C4 alkyl group;
- Y^- is an anion such as bromide, chloride, acetate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate or phosphate;

(7) quaternary diammonium polymers comprising repeating units of formula:



in which:

- R13, R14, R15 and R16, which may be identical or different, represent aliphatic, alicyclic or arylaliphatic radicals comprising from 1 to 20 carbon atoms or C1-C12 hydroxyalkyl aliphatic radicals,

  or else R13, R14, R15 and R16, together or separately, constitute, with the nitrogen atoms to which they are attached, heterocycles optionally comprising a second non-nitrogen heteroatom;
  or else R13, R14, R15 and R16 represent a linear or branched C1-C6 alkyl radical substituted with a nitrile, ester, acyl, amide or -CO-O-R17-D or -CO-NH-R17-D group, where R17 is an alkylene and D is a quaternary ammonium group;

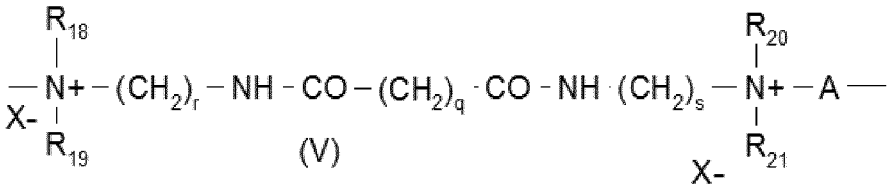
- A1 and B1 represent linear or branched, saturated or unsaturated, divalent polymethylene groups comprising from 2 to 20 carbon atoms, which may contain, linked to or intercalated in the main chain, one or more aromatic rings or one or more oxygen or sulfur atoms or sulfoxide, sulfone, disulfide, amino, alkylamino, hydroxyl, quaternary ammonium, ureido, amide or ester groups, and
- X^- denotes an anion derived from a mineral or organic acid;

  it being understood that A1, R13 and R15 can form, with the two nitrogen atoms to which they are attached, a piperazine ring;
  in addition, if A1 denotes a linear or branched, saturated or unsaturated alkylene or hydroxyalkylene radical, B1 may also denote a group (CH2)n-CO-D-OC-(CH2)p-with n and p, which may be identical

or different, being integers ranging from 2 to 20, and D denoting:

a) a glycol residue of formula -O-Z-O-, in which Z denotes a linear or branched hydrocarbon-based radical or a group corresponding to one of the following formulae: -(CH2CH2O)x-CH2CH2- and -[CH2CH(CH3)O]y-CH2CH(CH3)-, in which x and y denote an integer from 1 to 4, representing a defined and unique degree of polymerization or any number from 1 to 4 representing an average degree of polymerization;
b) a bis-secondary diamine residue, such as a piperazine derivative;
c) a bis-primary diamine residue of formula -NH-Y-NH-, in which Y denotes a linear or branched hydrocarbon-based radical, or else the divalent radical -CH2-CH2-S-S-CH2-CH2-;
d) a ureylene group of formula -NH-CO-NH-.

(8) polyquaternary ammonium polymers comprising units of formula (V):



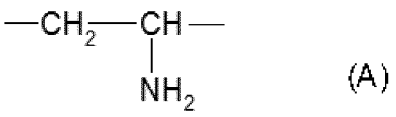
(V)

in which:

- R18, R19, R20 and R21, which may be identical or different, represent a hydrogen atom or a methyl, ethyl, propyl, β-hydroxyethyl, β-hydroxypropyl or
- CH2CH2(OCH2CH2)pOH radical, in which p is equal to 0 or an integer between 1 and 6, with the proviso that R18, R19, R20 and R21 do not simultaneously represent a hydrogen atom,
- r and s, which may be identical or different, are integers between 1 and 6,
- q is equal to 0 or to an integer between 1 and 34,
- X- denotes an anion such as a halide,
- A denotes a divalent dihalide radical or preferably represents -CH2-CH2-O-CH2-CH2-;

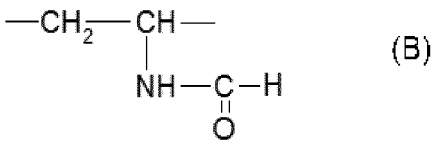
(9) quaternary polymers of vinylpyrrolidone and of vinylimidazole;
(10) polyamines;
(11) polymers including in their structure:

(a) one or more units corresponding to formula (A) below:



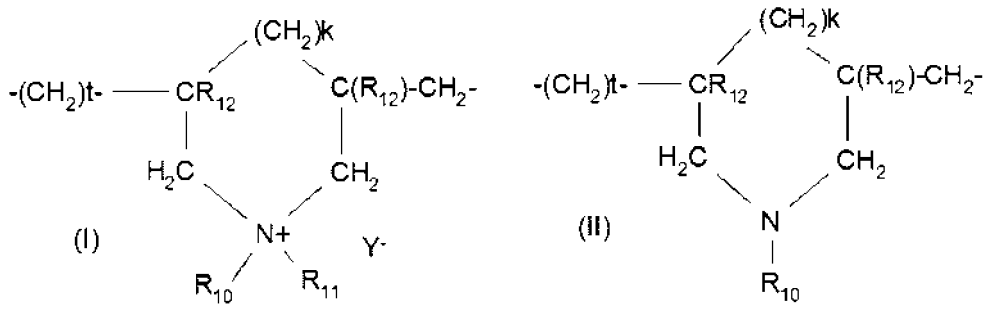
(A)

(b) optionally one or more units corresponding to formula (B) below:



(B)

preferably, the additional cationic polymers are chosen from those of families (1) and (6) mentioned above, better still from those of family (6), and preferentially from homopolymers or copolymers including, as main constituent of the chain, units of formula (I) or (II):



in which:

- k and t are equal to 0 or 1, the sum k + t being equal to 1;
- R12 denotes a hydrogen atom or a methyl radical;
- R10 and R11, independently of each other, denote a C1-C6 alkyl group, a C1-C5 hydroxyalkyl group, a C1-C4 amidoalkyl group; or alternatively R10 and R11 may denote, together with the nitrogen atom to which they are attached, a heterocyclic group such as piperidyl or morpholinyl; R10 and R11, independently of each other, preferably denote a C1-C4 alkyl group;
- Y^- is an anion such as bromide, chloride, acetate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate or phosphate.

12. Composition according to one of the preceding claims, comprising one or more alcohol ethers, preferably comprising in total from 12 to 40 carbon atoms; in particular obtained from identical or different alcohols comprising from 6 to 20 carbon atoms, preferably from 8 to 12 and better still 8 to 10 carbon atoms; preferentially dicaprylyl ether.

13. Composition according to one of the preceding claims, comprising water in an amount preferably ranging from 50% to 98% by weight, notably from 60% to 95% by weight, better still from 70% to 90% by weight, or even from 75% to 85% by weight, relative to the total weight of the composition.

14. Cosmetic treatment process, notably a hair treatment process, for caring for and/or cleansing keratin materials, notably the hair, comprising the application to said keratin materials of a cosmetic composition according to one of Claims 1 to 13, optionally followed by rinsing, after an optional leave-on time.

15. Cosmetic process for cleansing soiling residues from human keratin materials, in which a composition according to one of Claims 1 to 13 is applied to said keratin materials in the presence of water, it is massaged to form a foam, and the foam formed and the soiling residues are then removed by rinsing with water.

Patentansprüche

1. Kosmetische Zusammensetzung, insbesondere eine Haarzusammensetzung, umfassend:

- ein oder mehrere anionische Tenside,
- ein oder mehrere amphotere Tenside,
- ein oder mehrere kationische Polysaccharide und
- einen oder mehrere ungesättigte Fettalkohole in einem Gesamtgehalt von weniger als 1 Gew.-% bezogen auf das Gesamtgewicht der Zusammensetzung;

wobei die Zusammensetzung klar ist.

2. Zusammensetzung gemäß Anspruch 1, wobei die anionischen Tenside allein oder als Gemisch ausgewählt sind aus:

- C6-C24- und insbesondere C12-C20-Alkylsulfaten;
- C6-C24- und insbesondere C12-C20-Alkylethersulfaten; vorzugsweise umfassend von 2 bis 20 Ethylenoxideinheiten;
- C6-C24- und insbesondere C12-C20-Alkylsulfosuccinaten, insbesondere Laurylsulfosuccinaten;
- C6-C24- und insbesondere C12-C20-Olefinsulfonaten;

- C6-C24- und insbesondere C12-C20-Alkylethersulfosuccinaten;
- (C6-C24)Acylisethionaten und vorzugsweise (C12-C18)Acylisethionaten;
- C6-C24- und insbesondere C12-C20-Acylsarcosinaten; insbesondere Palmitoylsarcosinaten;
- (C6-C24)Alkylethercarboxylaten, vorzugsweise (C12-C20)Alkylethercarboxylaten; insbesondere jenen, die von 2 bis 50 Ethylenoxidgruppen enthalten;
- polyoxyalkylenierten (C6-C24)Alkylamidoethercarbonsäuren und Salzen davon, insbesondere jenen, die von 2 bis 50 Alkylenoxid- und insbesondere Ethylenoxidgruppen enthalten;
- C6-C24- und insbesondere C12-C20-Acylglutamaten;
- C6-C24- und insbesondere C12-C20-Acylglycinaten; insbesondere in Säureform oder in der Form von Alkalimetall- oder Erdalkalimetall-, Ammonium- oder Aminoalkoholsalzen.

3. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend das/die anionische(n) Tensid(e) in einer Gesamtmenge in dem Bereich von 2 Gew.-% bis 30 Gew.-%, insbesondere von 4 Gew.-% bis 25 Gew.-%, noch besser von 5 Gew.-% bis 20 Gew.-% und sogar noch besser von 6 Gew.-% bis 15 Gew.-%, bezogen auf das Gesamtgewicht der Zusammensetzung.

4. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei die amphoteren Tenside ausgewählt sind aus (C8-C20)Alkylbetainen, wie z.B. Cocoylbetain, (C8-C20)Alkylamidoalkyl(C3-C8)betainen, wie z.B. Cocamidopropylbetain, und Gemischen davon und den Verbindungen der Formel (IV):

$$R_{a''}\text{-NHCH(Y")-(CH}_2)_n\text{CONH(CH}_2)_{n'}\text{-N(R}_d)(R_e) \qquad \text{(IV)}$$

wobei:

- Y" die Gruppe -COOH, -COOZ", -CH_2-CH(OH)SO_3H oder die Gruppe CH_2CH(OH)SO_3-Z" darstellt;
- R_d und R_e unabhängig voneinander einen C_1- bis C_4-Alkyl- oder Hydroxyalkylrest darstellen;
- Z" ein kationisches Gegenion abgeleitet von einem Alkalimetall oder Erdalkalimetall, wie z.B. Natrium, ein Ammoniumion oder ein von einem organischen Amin abgeleitetes Ion darstellt;
- $R_{a''}$ eine C_{10}- bis C_{30}-Alkyl- oder Alkenylgruppe einer Säure $R_{a''}$-COOH, die vorzugsweise in Kokosnusskernöl oder in hydrolysiertem Leinsamenöl vorhanden ist, darstellt;
- n und n' unabhängig voneinander eine ganze Zahl in dem Bereich von 1 bis 3 bezeichnen;

wie z.B. das Natriumsalz von Diethylaminopropyllaurylaminosuccinamat.

5. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend das/die amphotere(n) Tensid(e) in einem Gesamtgehalt in dem Bereich von 0,1 Gew.-% bis 20 Gew.-%, vorzugsweise in einem Gehalt in dem Bereich von 0,5 Gew.-% bis 15 Gew.-%, noch besser von 1 Gew.-% bis 10 Gew.-% oder sogar von 1,5 Gew.-% bis 7,5 Gew.-%, bezogen auf das Gesamtgewicht der Zusammensetzung.

6. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei der/die ungesättigte(n) Fettalkohol(e) der Formel R-OH entspricht/entsprechen, wobei R ein ungesättigter Rest auf Kohlenwasserstoffbasis umfassend 8 bis 32 Kohlenstoffatome, insbesondere von 12 bis 28 Kohlenstoffatome, besonders von 14 bis 24 Kohlenstoffatome und noch besser von 16 bis 22 Kohlenstoffatome, ist; und gegebenenfalls umfassend eine oder mehrere Hydroxy(OH)-Gruppen; wobei vorzugsweise R ein ungesättigter Rest auf Kohlenwasserstoffbasis umfassend 8 bis 32 Kohlenstoffatome, insbesondere von 12 bis 28 Kohlenstoffatome, besonders von 14 bis 24 Kohlenstoffatome und noch besser von 16 bis 22 Kohlenstoffatome und umfassend nur eine Doppelunsättigung ist.

7. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei der/die ungesättigte(n) Fettalkohol(e) ausgewählt ist/sind aus Oleylalkohol, Erucylalkohol und Linoleylalkohol und Gemischen davon; wobei der ungesättigte Fettalkohol vorzugsweise Oleylalkohol ist.

8. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend den/die ungesättigte(n) Fettalkohol(e) in einem Gesamtgehalt in dem Bereich von 0,01 Gew.-% bis 0,90 Gew.-%, insbesondere in dem Bereich von 0,02 Gew.-% bis 0,80 Gew.-%, noch besser in dem Bereich von 0,05 Gew.-% bis 0,50 Gew.-% und sogar noch besser in dem Bereich von 0,1 Gew.-% bis 0,30 Gew.-%, bezogen auf das Gesamtgewicht der Zusammensetzung.

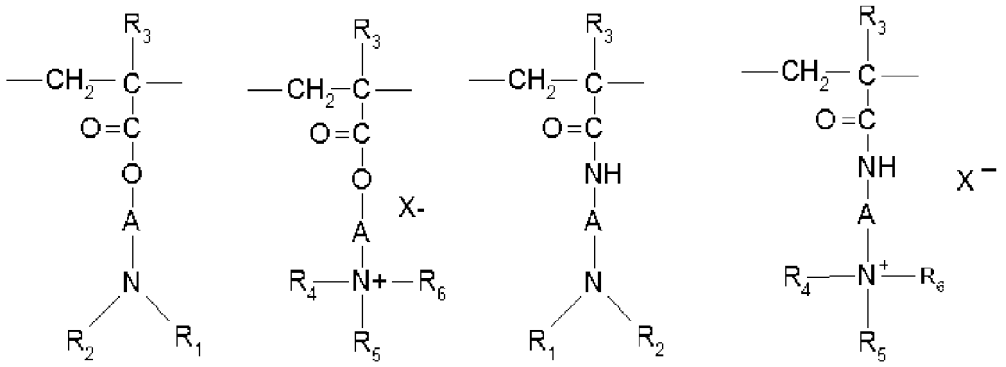
9. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei das/die kationische(n) Polysaccharid(e) ausgewählt ist/sind aus assoziativen oder nichtassoziativen kationischen Cellulosen und Galactomannangummis;

vorzugsweise aus Celluloseetherderivaten, die quaternäre Ammoniumgruppen enthalten, kationischen Cellulosecopolymeren, Cellulosederivaten, die mit einem wasserlöslichen quaternären Ammoniummonomer gepfropft sind; kationischen Guargummis, insbesondere jenen, die kationische Trialkylammonium-, insbesondere Trimethylammoniumgruppen enthalten; kationischen Derivaten von Cassiagummi, insbesondere jenen, die quaternäre Ammoniumgruppen enthalten, vorzugsweise ausgewählt aus kationischen Galactomannangummis, insbesondere kationischen Guargummis.

10. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend das/die kationische(n) Polysaccharid(e) in einer Gesamtmenge in dem Bereich von 0,01 Gew.-% bis 10 Gew.-%, noch besser von 0,05 Gew.-% bis 5 Gew.-%, sogar noch besser von 0,1 Gew.-% bis 2 Gew.-%, bezogen auf das Gesamtgewicht der Zusammensetzung.

11. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend ein oder mehrere zusätzliche kationische Polymere, die von den kationischen Polysacchariden verschieden sind, vorzugsweise ausgewählt aus:

(1) Homopolymeren oder Copolymeren, die von Acrylsäure- oder Methacrylsäureestern oder -amiden abgeleitet sind und wenigstens eine der Einheiten mit der folgenden Formel enthalten:

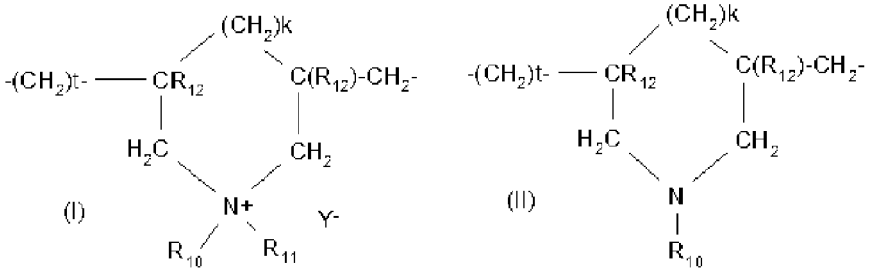


wobei:

- R3, das gleich oder verschieden sein kann, ein Wasserstoffatom oder einen CH3-Rest bezeichnet;
- A, das gleich oder verschieden sein kann, eine lineare oder verzweigte zweiwertige Alkylgruppe mit 1 bis 6 Kohlenstoffatomen, vorzugsweise 2 oder 3 Kohlenstoffatomen, oder eine Hydroxyalkylgruppe mit 1 bis 4 Kohlenstoffatomen darstellt;
- R4, R5 und R6, die gleich oder verschieden sein können, eine Alkylgruppe mit von 1 bis 18 Kohlenstoffatomen oder einen Benzylrest darstellen, vorzugsweise eine Alkylgruppe mit von 1 bis 6 Kohlenstoffatomen;
- R1 und R2, die gleich oder verschieden sein können, ein Wasserstoffatom oder eine Alkylgruppe mit von 1 bis 6 Kohlenstoffatomen, vorzugsweise Methyl oder Ethyl, darstellen;
- X ein Anion abgeleitet von einer Mineral- oder organischen Säure bezeichnet, wie z.B. ein Methosulfat-Anion oder ein Halogenid, wie z.B. Chlorid oder Bromid;

(2) Polymeren, gebildet aus Piperazinyleinheiten und zweiwertigen Alkylen- oder Hydroxyalkylenresten, die lineare oder verzweigte Ketten enthalten, gegebenenfalls unterbrochen durch Sauerstoff-, Schwefel- oder Stickstoffatome oder durch aromatische oder heterocyclische Ringe, und ebenfalls den Oxidations- und/oder Quaternisierungsprodukten dieser Polymere;
(3) wasserlöslichen Polyaminoamiden, hergestellt insbesondere durch Polykondensation einer sauren Verbindung mit einem Polyamin; wobei diese Polyaminoamide vernetzt sein können mit einem Epihalogenhydrin, einem Diepoxid, einem Dianhydrid, einem ungesättigten Dianhydrid, einem zweifach ungesättigten Derivat, einem Bishalogenhydrin, einem Bisazetidinium, einem Bishalogenacyldiamin, einem Bisalkylhalogenid oder alternativ mit einem Oligomer, das durch die Reaktion einer difunktionellen Verbindung, die mit einem Bishalogenhydrin, einem Bisazetidinium, einem Bishalogenacyldiamin, einem Bisalkylhalogenid, einem Epihalogenhydrin, einem Diepoxid oder einem zweifach ungesättigten Derivat reaktiv ist, erhalten ist; wobei das Vernetzungsmittel in Anteilen in dem Bereich von 0,025 bis 0,35 mol pro Amingruppe des Polyaminoamids verwendet wird; wobei diese Polyaminoamide alkyliert sein können oder, wenn sie eine oder mehrere tertiäre Aminfunktionen enthalten, quaternisiert sein können;
(4) Polyaminoamidderivaten, erhalten durch Kondensation von Polyalkylenpolyaminen mit Polycarbonsäuren,

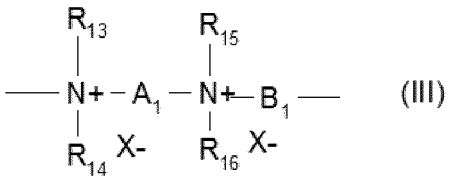
gefolgt von Alkylierung mit difunktionellen Mitteln;
(5) Polymeren, erhalten durch Umsetzen eines Polyalkylenpolyamins, das zwei primäre Amingruppen und wenigstens eine sekundäre Amingruppe enthält, mit einer Dicarbonsäure ausgewählt aus Diglycolsäure und gesättigten aliphatischen Dicarbonsäuren mit von 3 bis 8 Kohlenstoffatomen; wobei das Molverhältnis zwischen dem Polyalkylenpolyamin und der Dicarbonsäure vorzugsweise zwischen 0,8:1 und 1,4:1 beträgt; wobei das erhaltene Polyaminoamid mit Epichlorhydrin in einem Molverhältnis von Epichlorhydrin zu der sekundären Amingruppe des Polyaminoamids von vorzugsweise zwischen 0,5:1 und 1,8:1 umgesetzt wird;
(6) Alkyldiallylamin- oder Dialkyldiallylammonium-Copolymeren, wie z.B. Homopolymeren oder Copolymeren, die als Hauptkonstituent der Kette Einheiten, die Formel (I) oder (II) entsprechen, enthalten:



wobei

- k und t gleich 0 oder 1 sind, wobei die Summe k + t gleich 1 ist;
- R12 ein Wasserstoffatom oder einen Methylrest bezeichnet;
- R10 und R11 unabhängig voneinander eine C1-C6-Alkylgruppe, eine C1-C5-Hydroxyalkylgruppe, eine C1-C4-Amidoalkylgruppe bezeichnet; oder alternativ R10 und R11 zusammen mit dem Stickstoffatom, an das sie gebunden sind, eine heterocyclische Gruppe, wie z.B. Piperidyl oder Morpholinyl, bezeichnen können; wobei R10 und R11 unabhängig voneinander vorzugsweise eine C1-C4-Alkylgruppe bezeichnen;
- Y^- ein Anion ist, wie z.B. Bromid, Chlorid, Acetat, Borat, Citrat, Tartrat, Bisulfat, Bisulfit, Sulfat oder Phosphat;

(7) quaternären Diammoniumpolymeren, die Wiederholungseinheiten der folgenden Formel umfassen:



wobei:

- R13, R14, R15 und R16, die gleich oder verschieden sein können, aliphatische, alicyclische oder arylaliphatische Reste mit von 1 bis 20 Kohlenstoffatomen oder aliphatische C1-C12-Hydroxyalkylreste darstellen,

  oder andernfalls R13, R14, R15 und R16 zusammen oder getrennt mit den Stickstoffatomen, an die sie gebunden sind, Heterocyclen bilden, die gegebenenfalls ein zweites Nichtstickstoff-Heteroatom umfassen;
  oder andernfalls R13, R14, R15 und R16 einen linearen oder verzweigten C1-C6-Alkylrest darstellen, der mit einem Nitril, Ester, Acyl, Amid oder einer -CO-O-R17-D- oder -CO-NH-R17-D-Gruppe substituiert ist, wobei R17 ein Alkylen ist und D eine quaternäre Ammoniumgruppe ist;

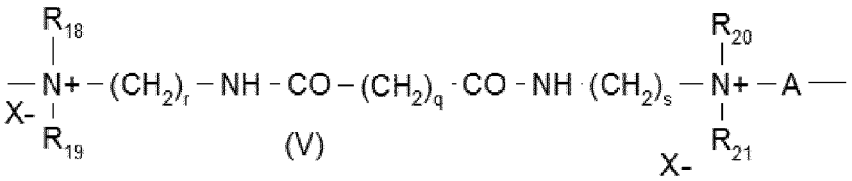
- A1 und B1 lineare oder verzweigte, gesättigte oder ungesättigte zweiwertige Polymethylengruppen mit von 2 bis 20 Kohlenstoffatomen darstellen, die, verknüpft mit der oder interkaliert in die Hauptkette, einen oder mehrere aromatische Ringe oder ein oder mehrere Sauerstoff- oder Schwefelatome oder Sulfoxid-, Sulfon-, Disulfid-, Amino-, Alkylamino-, Hydroxy-, quaternäre Ammonium-, Ureido-, Amid- oder Estergruppen enthalten können, und

- X^- ein von einer Mineral- oder organischen Säure abgeleitetes Anion bezeichnet;

wobei zu beachten ist, dass A1, R13 und R15 mit den beiden Stickstoffatomen, an die sie gebunden sind, einen Piperazinring bilden können;
wobei ferner, wenn A1 einen linearen oder verzweigten, gesättigten oder ungesättigten Alkylen- oder Hydroxyalkylenrest bezeichnet, B1 auch eine Gruppe (CH2)n-CO-D-OC-(CH2)p- darstellen kann, wobei n und p, die gleich oder verschieden sein können, ganze Zahlen in dem Bereich von 2 bis 20 sind und D bezeichnet:

a) einen Glycolrest der Formel -O-Z-O-, wobei Z einen linearen oder verzweigten Rest auf Kohlenwasserstoffbasis oder eine Gruppe, die einer der folgenden Formeln entspricht: -(CH2CH2O)x-CH2CH2- und -[CH2CH(CH3)O]y-CH2CH(CH3)-, bezeichnet, wobei x und y eine ganze Zahl von 1 bis 4 bezeichnen, die einen definierten und eindeutigen Polymerisationsgrad darstellen, oder eine beliebige Zahl von 1 bis 4 bezeichnen, die einen mittleren Polymerisationsgrad darstellt;
b) einen bis-sekundären Diaminrest, wie z.B. ein Piperazinderivat;
c) einen bis-primären Diaminrest der Formel -NH-Y-NH-, wobei Y einen linearen oder verzweigten Rest auf Kohlenwasserstoffbasis oder andernfalls den zweiwertigen Rest -CH2-CH2-S-S-CH2-CH2- bezeichnet;
d) eine Ureylengruppe der Formel -NH-CO-NH;

(8) polyquaternären Ammoniumpolymeren umfassend Einheiten der Formel (V):



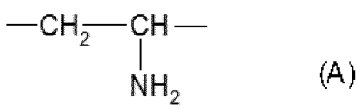
(V)

wobei:

- R18, R19, R20 und R21, die gleich oder verschieden sein können, ein Wasserstoffatom oder einen Methyl-, Ethyl-, Propyl-, β-Hydroxyethyl, β-Hydroxypropyl- oder -CH2CH2(OCH2CH2)pOH-Rest darstellen, wobei p gleich 0 oder eine ganze Zahl zwischen 1 und 6 ist, mit der Maßgabe, dass R18, R19, R20 und R21 nicht gleichzeitig ein Wasserstoffatom darstellen,
- r und s, die gleich oder verschieden sein können, ganze Zahlen zwischen 1 und 6 sind,
- q gleich 0 oder eine ganze Zahl zwischen 1 und 34 ist,
- X- ein Anion, wie z.B. ein Halogenid, bezeichnet,
- A einen zweiwertigen Dihalogenidrest bezeichnet oder vorzugsweise -CH2-CH2-O-CH2-CH2- darstellt;

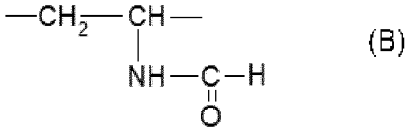
(9) quaternären Polymeren von Vinylpyrrolidon und von Vinylimidazol;
(10) Polyaminen;
(11) Polymeren, die in ihrer Struktur enthalten:

(a) eine oder mehrere Einheiten, die der nachstehenden Formel (A) entsprechen:



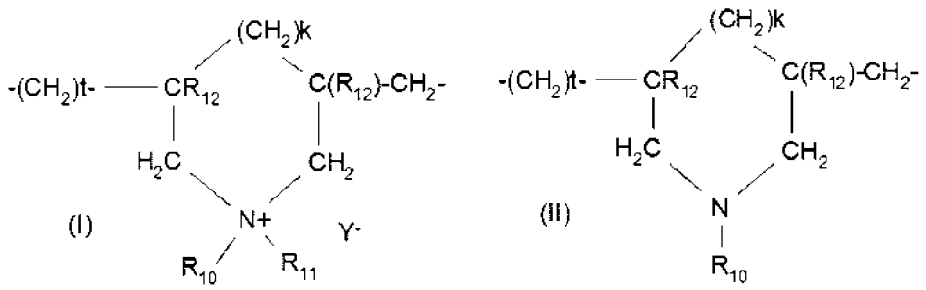
(A)

(b) gegebenenfalls eine oder mehrere Einheiten, die der nachstehenden Formel (B) entsprechen:



(B)

wobei die zusätzlichen kationischen Polymere vorzugsweise ausgewählt sind aus jenen der vorstehend genannten Familien (1) bis (6), noch besser aus jenen der Familie (6) und vorzugsweise aus Homopolymeren oder Copolymeren, die als Hauptkonstituent der Kette Einheiten der Formel (I) oder (II) enthalten:



wobei:

- k und t gleich 0 oder 1 sind, wobei die Summe k + t gleich 1 ist;
- R12 ein Wasserstoffatom oder einen Methylrest bezeichnet;
- R10 und R11 unabhängig voneinander eine C1-C6-Alkylgruppe, eine C1-C5-Hydroxyalkylgruppe, eine C1-C4-Amidoalkylgruppe bezeichnet; oder alternativ R10 und R11 zusammen mit dem Stickstoffatom, an das sie gebunden sind, eine heterocyclische Gruppe, wie z.B. Piperidyl oder Morpholinyl, bezeichnen können; wobei R10 und R11 unabhängig voneinander vorzugsweise eine C1-C4-Alkylgruppe bezeichnen;
- Y^- ein Anion ist, wie z.B. Bromid, Chlorid, Acetat, Borat, Citrat, Tartrat, Bisulfat, Bisulfit, Sulfat oder Phosphat.

12. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend einen oder mehrere Alkoholether, vorzugsweise umfassend insgesamt von 12 bis 40 Kohlenstoffatome; insbesondere erhalten von gleichen oder verschiedenen Alkoholen, die von 6 bis 20 Kohlenstoffatome, vorzugsweise von 8 bis 12 und noch besser von 8 bis 10 Kohlenstoffatome umfassen; vorzugsweise Dicaprylylether.

13. Zusammensetzung gemäß einem der vorstehenden Ansprüche, umfassend Wasser in einer Menge vorzugsweise in dem Bereich von 50 Gew.-% bis 98 Gew.-%, insbesondere von 60 Gew.-% bis 95 Gew.-%, noch besser von 70 Gew.-% bis 90 Gew.-% oder sogar von 75 Gew.-% bis 85 Gew.-%, bezogen auf das Gesamtgewicht der Zusammensetzung.

14. Kosmetisches Behandlungsverfahren, insbesondere ein Haarbehandlungsverfahren, zur Pflege und/oder Reinigung von Keratinmaterialien, insbesondere des Haars, umfassend Aufbringen einer kosmetischen Zusammensetzung gemäß einem der Ansprüche 1 bis 13 auf die Keratinmaterialien, gegebenenfalls gefolgt von Spülen nach einer optionalen Verweilzeit darauf.

15. Kosmetisches Verfahren zum Reinigen von verschmutzenden Rückständen von menschlichen Keratinmaterialien, wobei eine Zusammensetzung gemäß einem der Ansprüche 1 bis 13 in Gegenwart von Wasser auf die Keratinmaterialien aufgebracht wird, massiert wird, um einen Schaum zu bilden, und der gebildete Schaum und die verschmutzenden Rückstände anschließend durch Spülen mit Wasser entfernt werden.

Revendications

1. Composition cosmétique, notamment composition capillaire, comprenant :

- un ou plusieurs tensioactifs anioniques,
- un ou plusieurs tensioactifs amphotères,
- un ou plusieurs polysaccharides cationiques, et
- un ou plusieurs alcools gras insaturés, en une teneur totale inférieure à 1 % en poids par rapport au poids total de la composition

ladite composition étant limpide.

2. Composition selon la revendication 1, dans laquelle les tensioactifs anioniques sont choisis parmi, seuls ou en mélange :

- les alkylsulfates en C6-C24 et notamment en C12-C20,
- les alkyléthersulfates en C6-C24 et notamment en C12-C20 ; comprenant de préférence de 2 à 20 motifs oxyde d'éthylène ;
- les alkylsulfosuccinates en C6-C24 et notamment en C12-C20 et notamment les laurylsulfosuccinates ;
- les sulfonates d'oléfine en C6-C24 et notamment en C12-C20,
- les alkyléthersulfosuccinates en C6-C24 et notamment en C12-C20 ;
- les (C6-C24)acyliséthionates et de préférence les (C12-C18)acyliséthionates,
- les acylsarcosinates en C6-C24 et notamment en C12-C20 ; notamment les palmitoylsarcosinates ;
- les alkyl(C6-C24)éthercarboxylates, de préférence les alkyl(C12-C20)éthercarboxylates ; en particulier ceux comportant de 2 à 50 groupeents oxyde d'éthylène ;
- les acides alkyl(C6-C24)amidoéthercarboxyliques polyoxyalkylénés et leurs sels, en particulier ceux comportant de 2 à 50 groupeents oxyde d'alkylène, en particulier d'éthylène ;
- les acylglutamates en C6-C24 et notamment en C12-C20 ;
- les acylglycinates en C6-C24 et notamment en C12-C20 ; en particulier sous forme d'acide ou de sels de métaux alcalins ou alcalino-terreux, d'ammonium ou d'aminoalcool.

3. Composition selon l'une des revendications précédentes, comprenant le ou les tensioactifs anioniques en une quantité totale allant de 2 % à 30 % en poids, notamment de 4 % à 25 % en poids, mieux de 5 % à 20 % en poids et encore mieux de 6 % à 15 % en poids, par rapport au poids total de la composition.

4. Composition selon l'une des revendications précédentes, dans laquelle les tensioactifs amphotères sont choisis parmi les alkyl(C8-C20)bétaïnes telles que la cocobétaïne, les alkyl(C8-C20)amidoalkyl(C3-C8)bétaïnes telles que la cocamidopropylbétaïne, et leurs mélanges, et les composés de formule (IV) :

$$R_{a''}\text{-NHCH(Y'')-(CH}_2)_n\text{CONH (CH}_2)_{n'}\text{-N(R}_d)(R_e) \qquad \text{(IV)}$$

dans laquelle :

- Y'' représente le groupe -COOH, -COOZ'', $-CH_2$-CH(OH)SO_3H ou le groupe $CH_2CH(OH)SO_3$-Z'' ;
- R_d et R_e, indépendamment l'un de l'autre, représentent un radical alkyle ou hydroxyalkyle en C_1 à C_4 ;
- Z'' représente un contre ion cationique issu d'un métal alcalin ou alcalinoterreux, tel que le sodium, un ion ammonium ou un ion issu d'une amine organique ;
- $R_{a''}$ représente un groupe alkyle ou alcényle en C_{10} à C_{30} d'un acide $R_{a''}$-COOH qui est de préférence présent dans l'huile de coprah ou dans l'huile de lin hydrolysée ;
- n et n', indépendamment l'un de l'autre, désignent un nombre entier allant de 1 à 3 ;

tels que le sel de sodium du laurylaminosuccinamate de diéthylaminopropyle.

5. Composition selon l'une des revendications précédentes, comprenant le ou les tensioactifs amphotères en une teneur totale allant de 0,1 % à 20 % en poids, préférentiellement en une teneur allant de 0,5 % à 15 % en poids, encore mieux de 1 % à 10 % en poids, voire de 1,5 % à 7,5 % en poids par rapport au poids total de la composition.

6. Composition selon l'une des revendications précédentes, dans laquelle l'alcool ou les alcools gras insaturés correspondent à la formule R-OH dans laquelle R est un radical hydrocarboné insaturé comprenant 8 à 32 atomes de carbone, notamment de 12 à 28 atomes de carbone, en particulier de 14 à 24 atomes de carbone, et encore mieux de 16 à 22 atomes de carbone ; et comprenant éventuellement un ou plusieurs groupes hydroxyle (OH) ; de préférence, R étant un radical hydrocarboné insaturé comprenant 8 à 32 atomes de carbone, notamment de 12 à 28 atomes de carbone, en particulier de 14 à 24 atomes de carbone, et encore mieux de 16 à 22 atomes de carbone et comprenant uniquement une seule double insaturation.

7. Composition selon l'une des revendications précédentes, dans laquelle l'alcool ou les alcools gras insaturés sont choisis parmi l'alcool oléique, l'alcool érucique et l'alcool linoléique, et leurs mélanges ; préférentiellement, l'alcool gras insaturé est l'alcool oléique.

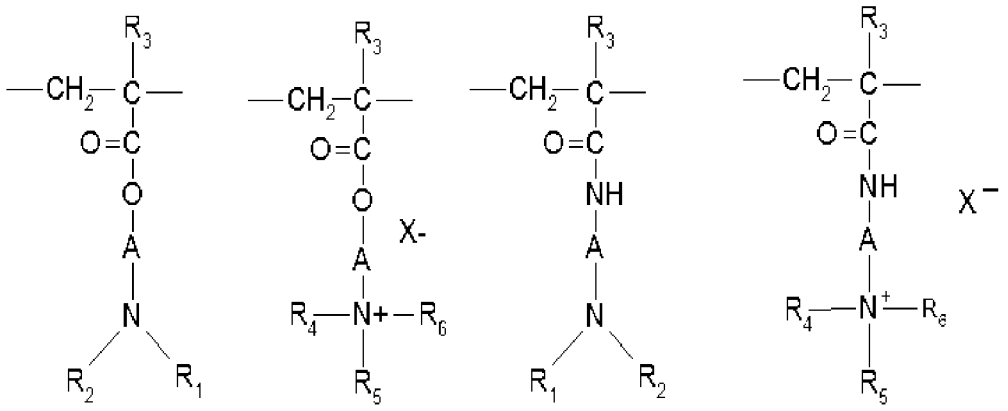
8. Composition selon l'une des revendications précédentes, comprenant l'alcool ou les alcools gras insaturés en une teneur totale allant de 0,01 % à 0,90 % en poids, notamment allant de 0,02 % à 0,80 % en poids, mieux allant de 0,05 % à 0,50 % en poids, encore mieux allant de 0,10 % à 0,30 % en poids, par rapport au poids total de la composition.

9. Composition selon l'une des revendications précédentes, dans laquelle le ou les polysaccharides cationiques sont choisis parmi les celluloses et les gommes de galactomannanes cationiques associatives ou non associatives ; de préférence parmi les dérivés d'éthers de cellulose comportant des groupeents ammonium quaternaires, les copolymères de cellulose cationiques, les dérivés de cellulose greffés avec un monomère hydrosoluble d'ammonium quaternaire ; les gommes de guar cationiques, notamment celles comprenant des groupeents cationiques trialkylammonium, notamment triméthylammonium ; les dérivés cationiques de la gomme de cassia, notamment ceux comportant des groupeents ammonium quaternaires ; préférentiellement choisis parmi les gommes de galactomannane cationiques, notamment les gommes de guar cationiques.

10. Composition selon l'une des revendications précédentes, comprenant le ou les polysaccharides cationiques en une quantité totale allant de 0,01 % à 10 % en poids, encore mieux de 0,05 % à 5 % en poids, encore mieux de 0,1 % à 2 % en poids, par rapport au poids total de la composition.

11. Composition selon l'une des revendications précédentes, comprenant un ou plusieurs polymères cationiques additionnels différents des polysaccharides cationiques, de préférence choisis parmi :

(1) les homopolymères ou copolymères dérivés d'esters ou d'amides acryliques ou méthacryliques et comportant au moins un des motifs ayant la formule suivante :



dans lesquelles:

- R3, qui peuvent être identiques ou différents, désignent un atome d'hydrogène ou un radical CH3 ;
- A, qui peuvent être identiques ou différents, représentent un groupe divalent alkyle, linéaire ou ramifié, de 1 à 6 atomes de carbone, de préférence 2 ou 3 atomes de carbone ou un groupe hydroxyalkyle de 1 à 4 atomes de carbone ;
- R4, R5, et R6, qui peuvent être identiques ou différents, représentent un groupe alkyle contenant de 1 à 18 atomes de carbone ou un radical benzyle ; de préférence un groupe alkyle contenant de 1 à 6 atomes de carbone ;
- R1 et R2, qui peuvent être identiques ou différents, représentent un atome d'hydrogène ou un groupe alkyle contenant de 1 à 6 atomes de carbone, de préférence méthyle ou éthyle ;
- X désigne un anion dérivé d'un acide minéral ou organique tel qu'un anion méthosulfate ou un halogénure tel que chlorure ou bromure ;

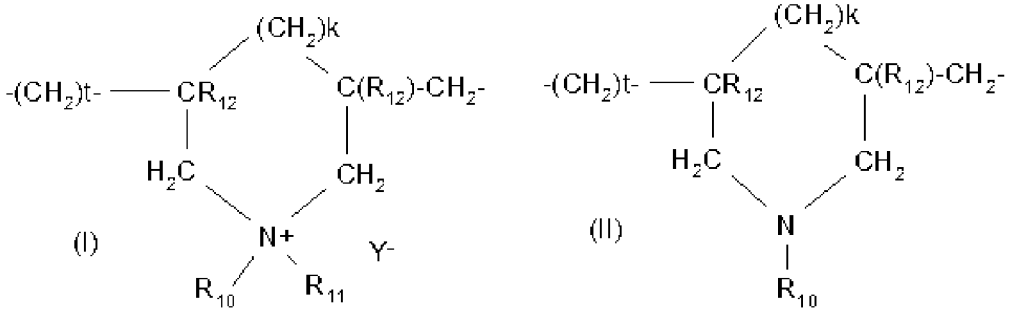
(2) les polymères constitués de motifs pipérazinyle et de radicaux divalents alkylène ou hydroxyalkylène contenant des chaînes linéaires ou ramifiées, éventuellement interrompues par des atomes d'oxygène, de soufre, d'azote ou par des cycles aromatiques ou hétérocycliques, ainsi que les produits d'oxydation et/ou de quaternisation de ces polymères ;
(3) les polyaminoamides solubles dans l'eau, préparés en particulier par polycondensation d'un composé acide

avec une polyamine ; ces polyaminoamides peuvent être réticulés par une épihalogénohydrine, un diépoxyde, un dianhydride, un dianhydride non saturé, un dérivé bis-insaturé, une bis-halogénohydrine, un bis-azétidinium, une bis-halogénoacyldiamine, un bis-halogénure d'alkyle ou en variante par un oligomère résultant de la réaction d'un composé difonctionnel réactif vis-à-vis d'une bis-halogénohydrine, d'un bis-azétidinium, d'une bis-halogénoacyldiamine, d'un bis-halogénure d'alkyle, d'une épilhalogénohydrine, d'un diépoxyde ou d'un dérivé bis-insaturé ; l'agent réticulant étant utilisé dans des proportions allant de 0,025 à 0,35 mole par groupeent amine du polyaminoamide ; ces polyaminoamides peuvent être alcoylés ou s'ils comportent une ou plusieurs fonctions amines tertiaires, quaternisés ;

(4) les dérivés de polyaminoamide résultant de la condensation de polyalkylène polyamines avec des acides polycarboxyliques suivie d'une alkylation par des agents difonctionnels ;

(5) les polymères obtenus par mise en réaction d'une polyalkylène polyamine comportant deux groupeents amine primaire et au moins un groupeent amine secondaire avec un acide dicarboxylique choisi parmi l'acide diglycolique et les acides dicarboxyliques aliphatiques saturés contenant de 3 à 8 atomes de carbone ; le rapport molaire entre le polyalkylène polyamine et l'acide dicarboxylique étant de préférence compris entre 0,8:1 et 1,4:1 ; le polyaminoamide résultant étant amené à réagir avec l'épichlorhydrine dans un rapport molaire d'épichlorhydrine par rapport au groupeent amine secondaire du polyaminoamide compris de préférence entre 0,5:1 et 1,8:1 ;

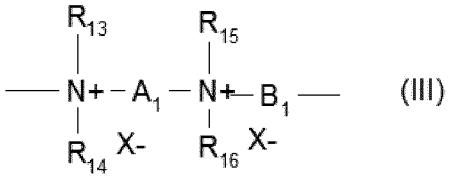
(6) les cyclopolymères d'alkyldiallylamine ou de dialkyldiallylammonium tels que les homopolymères ou copolymères comportant, comme constituant principal de la chaîne, des motifs correspondants à la formule (I) ou (II) :



dans lesquelles

- k et t sont égaux à 0 ou 1, la somme k + t étant égale à 1 ;
- R12 désigne un atome d'hydrogène ou un radical méthyle ;
- R10 et R11, indépendamment l'un de l'autre, désignent un groupeent alkyle en C1-C6, un groupeent hydroxyalkyle en C1-C5, un groupeent amidoalkyle en C1-C4 ; ou en variante R10 et R11 peuvent désigner conjointement avec l'atome d'azote auquel ils sont rattachés, un groupeent hétérocyclique tel que pipéridinyle ou morpholinyle ; R10 et R11, indépendamment l'un de l'autre, désignent de préférence un groupeent alkyle en C1-C4 ;
- Y^- est un anion tel que bromure, chlorure, acétate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate ou phosphate ;

(7) les polymères de diammonium quaternaire comprenant des motifs répétitifs de formule :



dans laquelle :

- R13, R14, R15 et R16, qui peuvent être identiques ou différents, représentent des radicaux aliphatiques, alicycliques, ou arylaliphatiques comprenant de 1 à 20 atomes de carbone ou des radicaux hydroxyalkylaliphatiques en C1-C12,

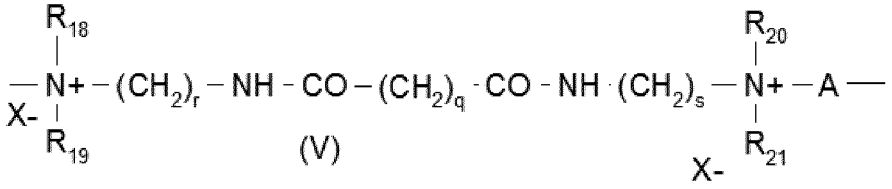
ou bien R13, R14, R15 et R16, ensemble ou séparément, constituent avec les atomes d'azote auxquels ils sont rattachés des hétérocycles comprenant éventuellement un second hétéroatome autre que l'azote ;
ou bien R13, R14, R15 et R16 représentent un radical alkyle en C1-C6 linéaire ou ramifié substitué par un groupeent nitrile, ester, acyle, amide ou -CO-O-R17-D ou

- CO-NH-R17-D, où R17 est un alkylène et D un groupeent ammonium quaternaire ;
- A1 et B1 représentent des groupeents divalents polyméthylène comprenant de 2 à 20 atomes de carbone, linéaires ou ramifiés, saturés ou insaturés, qui peuvent contenir, liés à ou intercalés dans la chaîne principale, un ou plusieurs cycles aromatiques, ou un ou plusieurs atomes d'oxygène ou de soufre ou des groupeents sulfoxyde, sulfone, disulfure, amino, alkylamino, hydroxyle, ammonium quaternaire, uréido, amide ou ester, et
- X^- désigne un anion dérivé d'un acide minéral ou organique ;

étant entendu que A1, R13 et R15 peuvent former, avec les deux atomes d'azote auxquels ils sont fixés, un cycle pipérazine ;
de plus, si A1 désigne un radical alkylène ou hydroxyalkylène linéaire ou ramifié, saturé ou insaturé, B1 peut également désigner un groupeent (CH2)n-CO-D-OC-(CH2)p-, n et p, qui peuvent être identiques ou différents, étant des nombres entiers allant de 2 à 20, et D désignant :

a) un radical de glycol de formule -O-Z-O-, dans laquelle Z désigne un radical hydrocarboné linéaire ou ramifié ou un groupeent correspondant à l'une des formules suivantes : -(CH2CH2O)x-CH2CH2- et - [CH2CH(CH3)O]y-CH2CH(CH3)-, dans lesquelles x et y désignent un nombre entier de 1 à 4, représentant un degré de polymérisation défini et unique ou un nombre quelconque de 1 à 4 représentant un degré de polymérisation moyen ;
b) un radical de diamine bis-secondaire tel qu'un dérivé de pipérazine ;
c) un radical de diamine bis-primaire de formule - NH-Y-NH- où Y désigne un radical hydrocarboné linéaire ou ramifié, ou bien le radical divalent -CH2-CH2-S-S-CH2-CH2- ;
d) un groupeent uréylène de formule -NH-CO-NH- ;

(8) les polymères de polyammonium quaternaires comprenant des motifs de formule (V) :



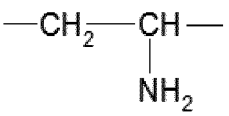
(V)

dans laquelle :

- R18, R19, R20 et R21, qui peut être identiques ou différents, représentent un atome d'hydrogène ou un radical méthyle, éthyle, propyle, β-hydroxyéthyle, β-hydroxypropyle ou -CH2CH2(OCH2CH2)pOH, où p est égal à 0 ou à un nombre entier compris entre 1 et 6, étant entendu que R18, R19, R20 et R21 ne représentent pas simultanément un atome d'hydrogène,
- r et s, qui peuvent être identiques ou différents, sont des nombres entiers compris entre 1 et 6,
- q est égal à 0 ou à un nombre entier compris entre 1 et 34,
- X- désigne un anion tel qu'un halogénure,
- A désigne un radical divalent d'un dihalogénure ou représente de préférence -CH2-CH2-O-CH2-CH2- ;

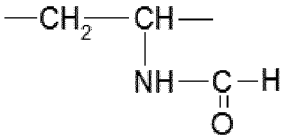
(9) les polymères quaternaires de vinylpyrrolidone et de vinylimidazole ;
(10) les polyamines ;
(11) les polymères comportant dans leur structure :

(a) un ou plusieurs motifs répondant à la formule (A) ci-dessous :



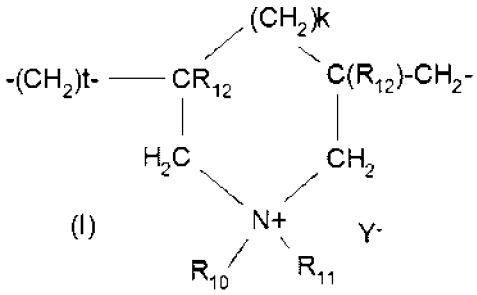
(A)

(b) éventuellement un ou plusieurs motifs répondant à la formule (B) ci-dessous :

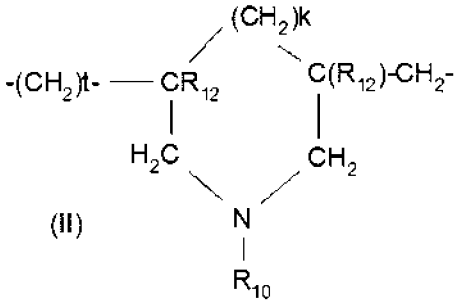


(B)

de préférence, les polymères cationiques supplémentaires étant choisis parmi ceux des familles (1) et (6) citées ci-dessus, mieux parmi ceux de la famille (6), et préférentiellement parmi les homopolymères ou copolymères comportant, comme constituant principal de la chaîne, des motifs de formules (I) ou (II) :



(I)



(II)

dans lesquelles :

- k et t sont égaux à 0 ou 1, la somme k + t étant égale à 1 ;
- R12 désigne un atome d'hydrogène ou un radical méthyle ;
- R10 et R11, indépendamment l'un de l'autre, désignent un groupeent alkyle en C1-C6, un groupeent hydroxyalkyle en C1-C5, un groupeent amidoalkyle en C1-C4 ; ou en variante R10 et R11 peuvent désigner conjointement avec l'atome d'azote auquel ils sont rattachés, un groupeent hétérocyclique tel que pipéridinyle ou morpholinyle ; R10 et R11, indépendamment l'un de l'autre, désignent de préférence un groupeent alkyle en C1-C4 ;
- Y^- est un anion tel que bromure, chlorure, acétate, borate, citrate, tartrate, bisulfate, bisulfite, sulfate ou phosphate.

12. Composition selon l'une des revendications précédentes, comprenant un ou plusieurs éthers d'alcools, de préférence comprenant au total de 12 à 40 atomes de carbone ; en particulier, obtenus à partir d'alcools, identiques ou différents, comprenant de 6 à 20 atomes de carbone, de préférence de 8 à 12, et encore mieux 8 à 10 atomes de carbone ; préférentiellement l'éther de dicaprylyle.

13. Composition selon l'une des revendications précédentes, comprenant de l'eau en une quantité allant de préférence de 50 % à 98 % en poids, notamment de 60 % à 95 % en poids, encore mieux de 70 % à 90 % en poids, voire de 75 % à 85 % en poids, par rapport au poids total de la composition.

14. Procédé de traitement cosmétique, notamment procédé de traitement capillaire, pour le soin et/ou le nettoyage de matières kératiniques, notamment des cheveux, comprenant l'application sur lesdites matières kératiniques d'une composition cosmétique selon l'une des revendications 1 à 13, suivie éventuellement d'un rinçage, après un éventuel temps de pose.

15. Procédé cosmétique pour le nettoyage des résidus de salissure des matières kératiniques humaines, dans lequel une composition selon l'une des revendications 1 à 13 est appliquée sur lesdites matières kératiniques en la présence d'eau, on masse pour former une mousse, et puis on élimine la mousse formée et les résidus de salissure par rinçage avec de l'eau.

REFERENCES CITED IN THE DESCRIPTION

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