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The invention relates to a cosmetics composition and to its use.

Cosmetics compositions are nowadays available in many different forms. One product having a very distinct appearance from another product may nevertheless serve the same purpose as said other product. Examples of the wide variety that cosmetics may have include lotions, gels, creams, ointments, milks, aerosols, pastes and so forth.

US 5,902,225 and WO 97/20626 describe post-foamable compositions exhibiting multiple-sequential stages of foam. The compositions comprise a foaming utilitarian constituent, a post foaming agent and compressed gas. US 5 879 669 and DE 4315405 describe compositions comprising hydroxyethyl cellulose, ethoxylated castor oil, water, and a propane/butane mixture as a propellant.

US 3,541,581 describes a post-foamable composition in the form of a stable gel. The gel is to remain substantially free from foaming for at least about 60 seconds. The document uses propellants in an aerosol dispenser, not in the composition.

WO 4,735,747 describes a liquid soap neutralization process involving the manufacture of a post foaming gel composition wherein an aqueou fatty acid mixture is mixed under pressure with a mixture of isopentane and isobutane.

WO 99/38490 relates to an aerosol personal cleansing composition comprising a neat cleansing lotion, a lathering surfactant, a lipophilic skin moisturizing agent, water, and a hydrocarbon propellant. The compositions have either relatively low or relatively high viscosities.

US 5,679,324 pertains to an aerosol foatable fragrance composition which, upon discharging from an aerosol container, forms a fast breaking foam. The composition contains surfactant, a propellant, a fragrance, a thickener, and a cosmetic vehicle wherein the ratio of the surfactant to propellant is from about 1:1 to about 1:10.

WO 00/39273 described a packaged aqueous self-foaming liquid cleansing composition of too viscous a nature to be dispensed from a single compartment propellant driven aerosol packaging. A propellant, not part of the composition, is provided in a 'bag in can' type packaging.

DE 38 39 349 discloses post-foaming compositions comprising a soap-free, surfactant-based gel composition consisting essentially of water, a water-soluble anionic alkali metal C10-C16 alkyl ether sulfate surfactant, a water dispersible ethoxylated fatty alcohol or fatty ester, isopropyl myristate, a mono- or disaccharide and a hydrocarbon foaming agent being mixture of n-pentane/isobutane.

The present invention seeks to provide a new form for a cosmetics composition. The objective form is a viscous composition, preferably a gel, which, after application to the skin, creates a post-application foaming effect. When the gel is contacted with the skin, it is desired that a noticeable transition takes place from a gel to a dense creamy foam. To achieve this goal, the invention provides a cosmetics composition comprising a thickener, a propellant, a surfactant and water, wherein the composition is contained in a container under a pressure of no more than 3 bar.

Surprisingly, it has been found that a propellant can be incorporated into a cosmetics composition wherein the resultant pressure is less than that of the propellant on its own. Additionally, the propellant is incorporated into the cosmetics composition substantially without affecting the stability of the composition, even if the composition has the form of a gel. When the composition is applied to the skin, the propellant is released from the gel and the user experiences a foam which is very rich, creamy and long-lasting. It has further been found that the composition is non-flammable and as such is associated with a reduced risk for consumers with respect to fire and explosion hazards.

It is to be noted that cosmetics compositions in the form of a gel and comprising a propellant are known per se. In the field of shaving creams, gels are marketed which, due to the presence of a propellant, convert into a foaming layer or lather when brought into contact with the skin. More recently, this technology has been modified to allow shower foam products to be marketed. These compositions are generally packaged in containers having two compartments, e.g., a bag made of a laminated material suspended inside an aerosol can. Moreover, the amount of propellant needed in these compositions is relatively high. Hence, shaving gels are packed into pressurized containers wherein the pressure usually is as high as 8 bar or more. Consequently, the container needs to be particularly strong and is therefore made of metal.

A composition according to the invention does not require such high amounts of propellant. As has been mentioned, the pressure in a container in which the composition is contained may be as low as 3 bar or less. Preferably, said pressure is lower than 2 bar. Due to this low pressure, the present composition may advantageously be packed in a plastic container, e.g. a polyethylene or polypropylene container, which is economically much more attractive than package in a metal container. Furthermore, a composition according to the invention has been found to have a lower pressure at elevated temperatures than expected. This feature is advantageous in that it can often not be avoided that the product needs to be stored at elevated temperatures for a certain period of time. It is to be noted that the pressure refers to an absolute pressure. Furthermore, the pressure will be in excess of atmospheric pressure, i.e. an overpressure of at least 0.1 bar.

Thus, the invention is a cosmetics composition comprising a thickener, a propellant which is iso-pentane, a surfactant and water, wherein the composition is contained in a container under pressure of at least 0.1 bar in excess.
of atmospheric pressure and below 3 bar, and wherein the composition has the form of a gel having a viscosity of 10,000 to 50,000 mPas, measured as Brookfield viscosity (23°C, spindle TE, 5 Rpm).

[0015] The present composition has the form of a gel. Accordingly, the composition comprises a thickener, which is preferably present in an amount of from 0.01 to 30 wt.%, more preferably from 0.5 to 10 wt.%, even more preferably from 1 to 3 wt.%, based on the weight of the composition. Suitable thickeners are chosen for the compatibility with the propellant and for their capability to provide a stable viscous product, more in particular a stable gel. The viscosity is 10,000 to 50,000, and preferably 20,000 to 30,000 mPas, measured as Brookfield viscosity (23°C, spindle TE, 5 Rpm), e.g. to employ in cleansing gels, face cleansing gels, face care gels, gels for masks, and similar compositions which are commonly used in body care.

[0016] Examples of thickeners to be used in compositions according to the present invention include side chain modified polymers based on aerosol-types (hydrophilic silicic acids), polysaccharides such as xanthan gum, guar-guar, agar-agar, alginates and tyloses, carboxymethylcellulose, hydroxyethylcellulose, high molecular polyethylene glycol mono- and diesters of fatty acids, polyacrylates (e.g. Carbopol® of Goodrich or Synthalene® of Sigma), polyacrylamide, polyvinyl alcohols and polyvinylpyrrolidon. Particularly, thickeners with associate action, such as fatty acid glycerides, esters of fatty acids with polyls such as pentaerythrit or trimethylopropan, fatty alcohol ethoxylates, optionally with EO-homologue distribution, alkyloligoglucoisides and sugar esters may be used.

[0017] In accordance with the invention, highly preferred thickeners are gums and poly(meth)acrylates, such as polyacrylic acid. Particularly stable gels have been obtained using xanthan gum as the thickener. The presence of a molecular network is highly beneficial to the stability of the gel and can be demonstrated in rheological measurements.

[0018] A further important component of the present composition is a propellant. Advantageously, the propellant is chosen for its physico-chemical properties and the character of the foam texture produced on application to skin. A further consideration on which the choice for a suitable propellant may be based is its environmentally friendly character. The propellant is isopentane preferably present in an amount suitable to achieve the desired pressure of the composition in a container in which it is packed. Suitable amounts range from 0.1 to 20 wt.%, preferably from 1 to 15 wt.%, more preferably from 4 to 8 wt.%, based on the weight of the composition.

[0019] Furthermore it has been found unexpectedly that alkanes in combination with thickeners, can yield highly viscous mixtures, of a gel-like nature. In cosmetic or pharmaceutical applications, these gel-like mixtures demonstrate a high stability, also when the temperature is decreased. Another advantage of compositions according to the invention may be, the pleasant sensation to the skin, compositions according to the invention may give rise to.

[0020] The composition further comprises one or more surfactants. Preferably, the surfactant or surfactants are foaming and skin friendly. Possible surfactants include anionic, nonionic and/or amphoteric surfactants. Typical examples of anionic surfactants include soaps, alkylbenzol sulfonates, alkane sulfonates, olefin sulfonates, alkyl ether sulfonates, glycerine ether sulfonates, α-methyl ester sulfonates, sulfonfatty acids, alkyl sulfates, fatty alcohol ether sulfates, glycerine ether sulfates, fatty acid ether sulfates, hydroxy mixed ether sulfates, monoglyceride (ether) sulfates, fatty acid amide (ether) sulfates, mono- and dialkyl sulfosuccinates, mono-and alkyl sulfosuccinamates, sulfotriglycerides, amide soaps, ether carboxylic acids and salts thereof, fatty acid isothionates, fatty acid sarcosinates, fatty acid taurides, N-acylimino acids such as acylactylate, acyltartrate, acylglutamate and acylaspartate, alkyloligoglucoiside sulfates, protein fatty acid condensates and alkyl (ether) phosphates. Typical examples of nonionic surfactants include fatty alcoholpolyglycol ethers, alkylphenolpolyglycol ethers, fatty acid polyglycol esters, fatty acid amidopolyglycol ethers, fatty amidoligoglycosides or glucoronic acid derivatives, fatty acid-N-alkylglycaminide, proteinhydrolysates, polyol fatty acid esters, sugar esters, sorbitan esters, polyols and amino-oxides. Typical examples of amphoteric or zwitterionic surfactants include alkyl betains, alkylamido betains, aminopropionates, aminoglycinates, imidazolionin betains and sulfo betains. Further reference, e.g. concerning the preparation of these compounds, may be made to J. Falbe (ed.), "Surfactants in Consumer Products", Springer Verlag, Berlin, 1987, p. 123-217. Examples of preferred surfactants include polarsorbate 20 or 40, coco glucoside, lauryl glucoside, decyl glucoside, lauryl sulfates such as ammonium, sodium, magnesium, MEA, TEA, or Mipa lauryl sulfate, cocamidopropyl betain, and sodium alkyl sulfosuccinates. The surfactant is preferably present in an amount of from 0.5 to 50 wt. %, more preferably from 2 to 20 wt. % and most preferably from 8 to 13 wt. %, based on the weight of the composition.

[0021] It is possible to use a combination of ionic surfactants and amphoteric or non-ionic surfactants. Preferably the ionic surfactant is an anionic surfactant in such combinations. Typically the concentration ranges of such a composition comprising ionic surfactants and amphoteric or non-ionic surfactants are: 0.01 to 30 wt.% of a thickener, 0.1 to 20 wt. % of a hydrophobic compound having an HLB (hydrophilic/lipophilic balance) value of less than 10, 0.5 to 40 wt.% anionic surfactants, 0.25 to 5 wt.% amphoteric surfactants and/or 0.5 to 40 wt.% nonionic surfactants. Furthermore such combinations are preferably used in a ionic surfactant to amphoteric/non-ionic surfactant of in the range of 2:1 to 8:1 wt. to wt, more preferably in the range of 4:1 to 6:1 wt. to wt..

[0022] The present compositions may further comprise fatty alcohols, by which primary aliphatic alcohols of the formula R1OH are meant, in which R1 is an aliphatic hydrocarbon group containing 6 to 22, preferably 10 to 18 carbon atoms
and 0, 1, 2 or 3 double bonds. Typical examples are capron alcohol, capryl alcohol, 2-ethylhexyl alcohol, caprin alcohol, lauryl alcohol, lauridic alcohol, myristyl alcohol, cetyl alcohol, palmoleyl alcohol, stearyl alcohol, isostearyl alcohol, oleyl alcohol, elaidyl alcohol, petroselinyl alcohol, linoyl alcohol, linolenyl alcohol, elaeostearyl alcohol, arachyl alcohol, gadoleyl alcohol, behenyl alcohol, erucyl alcohol, and brassidyl alcohol and mixtures thereof. These compounds may be present in amounts of 0.1 to 20%, preferably 0.5 to 10 wt.% based on the weight of the composition.

[0023] The present compositions may further comprise fatty alcohol ethoxylates, which may have the formula \( \text{R}_2 \text{O} (\text{AlkO})_m \text{H} \), in which \( \text{R}_2 \) is an aliphatic hydrocarbon group containing 6 to 22, preferably 10 to 18 carbon atoms and 0, 1, 2 or 3 double bonds, \( m \) is an integer from 1 to 30, preferably 5 to 20, more preferably 10 to 15, and \( \text{AlkO} \) is an alkylene oxide. \( \text{AlkO} \) may be chosen from ethylene oxide, propylene oxide and/or butylene oxide. These compounds may be present in amounts of 0.1 to 20%, preferably 0.5 to 10 wt.% based on the weight of the composition.

[0024] Depending on the envisaged purpose of the composition, one or more other ingredients may be present. Examples of such ingredients include pH regulating agents, oil bodies, emulsifying agents, preservatives, perfumes, moisturizing agents, UV-filters, emollients, superfatting agents, brighteners, strength improving agents, silicon agents, fats, waxes, lecithins, phospholipids, stabilizing agents, antibacterial agents and other bioactive agents, odor-absorbing agents, antiperspirants, antifungal agents, film-forming agents, swelling agents, antioxidants, insect-repellents, hydrodromes, tanning agents, tyrosin inhibitors, solubilizers and colorants. The composition may further comprise a conventional cosmetics base, such as water, oil, emulsion etc..

[0025] The composition is preferably formulated to be a gel. In a preferred embodiment the gel transforms upon dispensing from a container into a soft and foamy mousse which cleans in a soft and silky manner.

[0026] The pH of the composition is preferably regulated to be close to the pH of the skin itself. Accordingly, the pH of the composition is preferably slightly acidic to slightly alkaline, e.g. in the range of 5 to 8. An example of a suitable pH regulating agent is citric acid. The skilled person will be aware of numerous suitable pH regulating agents that may be employed in the present type of compositions. The amount of the pH regulating agent present is of course adjusted so that the desired pH is achieved.

[0027] Examples of suitable oil bodies are guarbeta-alcohols based upon fatty alcohols containing 6 to 18 or preferably 8 to 10 carbon atoms, esters of linear \( \text{C}_6 - \text{C}_{22} \) fatty acids with linear \( \text{C}_6 - \text{C}_{13} \) fatty alcohols, esters of branched \( \text{C}_6 - \text{C}_{13} \) fatty alcohols, such as myristyl-myristate, myristyl-palmitate, myrityl-stearate, myristyl-oleate, myristyl-behenate, myristyl-erucate, cetyl-myristate, cetyl-palmitate, cetyl-stearate, cetyl-oleate, cetyl-behenate, cetyl-erucate, stearyl-myristate, stearyl-palmitate, stearyl-stearate, stearyl-oleate, stearyl-behenate, stearyl-erucate, isostearyl-myristate, isostearyl-palmitate, isostearyl-stearate, isostearyl-oleate, isostearyl-behenate, isostearyl-erucate, oleyl-myristate, oleyl-palmitate, oleyl-stearate, oleyl-oleate, oleyl-behenate, oleyl-erucate, behenyl-myristate, behenyl-palmitate, behenyl-stearate, behenyl-oleate, behenyl-behenate, behenyl-erucate, erucyl-myristate, erucyl-palmitate, erucyl-stearate, erucyl-oleate, erucyl-behenate and erucyl-erucate. Other examples are esters of linear \( \text{C}_6 - \text{C}_{22} \) fatty acids with branched alcohols, in particular with 2-ethylhexanol, esters of carboxylic acids with linear or branched \( \text{C}_6 - \text{C}_{22} \) fatty acids, in particular dioctylmalates, esters of linear and/or branched fatty acids with multivalent alcohols, such as propyleneglycol, dimerdiols or trimertriols, and/or guarbeta-alcohols, triglycerides based upon \( \text{C}_6 - \text{C}_{10} \) fatty acids, liquid mono-/di-/triglyceride mixtures based upon \( \text{C}_6 - \text{C}_{18} \) fatty acids, esters of \( \text{C}_6 - \text{C}_{22} \) fatty acids and/or guarbeta-alcohols with aromatic carboxylic acids, in particular benzoic acid, esters of \( \text{C}_2 - \text{C}_{12} \) dicarboxylic acids with linear or branched alcohols having 1 to 22 carbon atoms or polyols with 2 to 10 carbon atoms and 2 to 6 hydroxy groups, oils of vegetable origin, branched primary alcohols, substituted cyclohexanes, linear and branched \( \text{C}_6 - \text{C}_{22} \) fatty alcohol carbonates, guerbeta-carbonates, esters of benzoic acid and linear and/or branched \( \text{C}_6 - \text{C}_{22} \) alcohols, such as Finsolv® TN, linear or branched, symmetric or asymmetric dialkylethers having 6 to 22 carbon atoms per alkyl group, ring opening products of epoxy fatty acid esters and polyols, silicon-oils and/or aliphatic respectively naphtalenic hydrocarbons, such as squalane, squalene or dialkylcyclohexanes.

[0028] An emollient or moisturizing agent may be present in order to improve the ease of application of the composition and also to influence the final skin feel the user experiences. Examples of suitable emollients or moisturizing agents include glycerin, propyleneglycol, PEG 7 glyceryl cocoate, PEG 6 caprylic or capric glycerides, glyceryl oleate and lipids in general, such as paraffin oil or polar oils. An emollient or moisturizing agent is preferably present in an amount ranging from 0.5 to 15 wt.%, based on the weight of the composition.

[0029] Suitable emulsifying agents are for example non-ionic surfactants such as:

- reaction products of 2 to 30 mole ethylene oxide and/or 0 to 5 mole propylene oxide with linear fatty alcohols having 8 to 22 carbon atoms, with fatty acids having 12 to 22 carbon atoms, with alkylphenols having 8 to 15 carbon atoms in the alkyl group and also with alkylamines having 8 to 22 carbon atoms in the alkyl group;
- alkyl and/or alkylen-oligoglycosides having 8 to 22 carbon atoms in alk(en)yl group and ethoxylated analogs thereof;
- reaction products of 1 to 15 mole ethylene oxide and castor oil and/or fixedated castor oil;
- reaction products of 15 to 60 mole ethylene oxide and castor oil and/or fixedated ricinoleic oil;
• partial-esters of glycerin and/or sorbitane with unsaturated, linear or saturated, branched fatty acids having 12 to 22 carbon atoms and/or hydroxycarboxylic acids having 3 to 18 carbon atoms, as well as adducts thereof with 1 to 30 mole ethylene oxide;
• partial-esters of polyglycerin (average self-condensation degree 2 to 8), polyethyleneglycol (molecular weight of 400 to 5000), trimethylolpropane, pentaerythrite, sugar-alcohols, such as sorbitol, alkylglucosides, such as methylglucoside, butylglucoside, laurylglucoside, as well as polyglycosides, such as cellulose, with saturated and/or unsaturated, linear or branched fatty acids having 12 to 22 carbon atoms and/or hydroxyxycarboxylic acids having 3 to 18 carbon atoms, as well as adducts thereof with 1 to 30 mole ethylene oxide;
• mixed-esters of pentaerythrite, fatty acids, citric acid and fatty alcohols in accordance with DE 1165574 PS and/or mixed-esters of fatty acids having 6 to 22 carbon atoms, methyglycose and polyols, preferably glycerin or polyglycerin;
• mono-, di- and trialkyllphosphates, as well as mono-, di- and tri-PEG-alkylphosphates and salts thereof;
• wool-wax alcohols;
• polysioxan-polyalkyl-polyether-copolymers respectively derivatives thereof;
• polyalkylene glycols;
• glycerincarbonates.

[0030] The reaction products of ethylene oxide and/or propylene oxide with fatty alcohols, fatty acids, alkylphenols or ricinolic oils are commercially obtainable products. They are available as homologous mixtures, of which the average alkoxylation degree is in accordance with the mass ratio of ethylene oxide and/or propylene oxide and substrate, with which the reaction takes place. C_{12}-C_{18} fatty acid mono- and diesters of reaction products of ethylene oxide and glycerin are known in relation to cosmetic compositions from DE-2024051.

[0031] Typical examples of suitable partial-glycerides are monoglyceride-hydroxy-stearinate, diglyceridehydroxy-stearinate, monoglyceride-isostearinate, diglyceride-isostearinate, monoglyceride-oleate, diglyceride-oleate, monoglyceride-ricinoleate, diglyceride-ricinoleate, monoglyceride-linoleate, diglyceride-linoleate, monoglyceride-linolenate, diglyceride-linolenate monoglyceride-erucate, diglyceride-erucate, monoglyceride-tartrate, diglyceride-tartrate, monoglyceride-citrate, diglyceride-citrate, monoglyceride-malate, diglycideremalate, as well as technical mixtures thereof, which may still contain small amounts of triglyceride, depending upon the production process. Reaction products of 1 to 30, preferably 5 to 10 mole ethylene oxide with aforementioned partial-glycerides are suitable too.


[0033] Typical examples of suitable polyglycerin esters are polyglyceryl-2-dipolyhydroxy-stearate (Dehymuls® PGPH), polyglycerin-3-diisostearate (Lameform® TGI), polyglyceryl-4 isostearate (Isolan® G 34), polyglyceryl-3 oleate, diisostearoyl polyglyceryl-3 diisostearate (Isolan® PDI), polyglyceryl-3 methylglycose diestearate (Tego Care® 450), polyglyceryl-3 beeswax (Cera Bellina®), polyglyceryl-4 caprate (Polyglycerol Caprate T20 10/90), polyglyceryl-3 cetyl ether (Chimexane® NL), polyglyceryl-3 distearate (Cremophor® GS 32) and polyglyceryl polyricin-oleate (Admul® WOL 1403) polyglyceryl dimeralioisostearate, as well as, mixtures thereof.

[0034] Further examples of suitable polyol esters are possibly with 1 to 30 mole ethylene oxide derivatized mono-, di- and triesters of trimethylolpropane or pentaerythrite with lauric acid, cocinic acid, palinic acid, tualcum-oil acid, palinic acid, steric acid, oleic acid, behenic acid and the like.

[0035] Cationic surfactants may also be suitable emulsifying agents. Preferred cationic surfactant are quaternary esters, in particular quarternary methylyl-di-fatty acid- triethanol-amine-ester salts.

[0036] Superfattening agents may be compounds such as lanolin or lecithin as well as polyethoxoyated or acylated lanolin- and lecithin derivatives, polyol fatty acid esters, monoglycerides and fatty acid alkanolamides, wherein fatty acid alkanolamides also tend to stabilizing the foam.

[0037] Brighteners may for example be selected from: alkylene glycolesters, in particular ethylene glycolisostearate, fatty acid alkanolamide, in particular cocinic acid diethanolamide; partial-glycerides, especially monoglyceridestearate; esters of multivalent, possibly hydroxyl substituted carboxylic acids with fatty alcohols having 6 to 22 carbon atoms, in particular esters with long chains of tartaric acid; fatty compounds, such as fatty acids, fatty ketones, fatty aldehydes, fatty ethers and fatty carbonates, which have a total of at least 4 carbon atoms, in particular laurin and distearyl ether; fatty acids such as stearic acids, hydroxysearic acids or behenic acids, ring opening products of olfenejoxides having 12 to 22 carbon atoms with fatty alcohols having 12 to 22 carbon atoms and/or polyols having 2 to 15 carbon atoms and
2 to 10 hydroxyl groups, as well as mixtures thereof.

[0038] As strength improving agents, particularly suitable groups of compounds are e.g. C_{12}-C_{22} fatty alcohols or hydroxy- fatty alcohols, preferably having 16 to 18 carbon atoms. Partial-glycerides, fatty acids or hydroxy fatty acids are also examples of suitable strength improving agents. Preferred is a combination of these compounds with alkyloligoglucosides and/or fatty acids-N-methylglucamides of equal chain length and/or polyglycerinpolypoly-12-hydroxystearates.

[0039] Examples of suitable silicon compounds are dimethylpolysiloxanes, methylphenylpolysiloxanes, cyclic silicons, as well as amino-, fatty acid-, alcohol-, epoxy-, fluоро-, glycoside-, and/or alkylated silicon compounds, which may either be in a liquid phase or a resin phase, at room temperature. Other examples are dimethicones, in particular mixtures of dimethicones having an average chain length of 200 to 300 dimethylsiloxane moieties and hydrated silicates. A detailed overview of suitable volatile silicons can be found in Todd et al., Cosm. Toil. 91, 27 (1976).

[0040] Typical examples of fats are tri-glycerides. Suitable waxes are for example natural waxes, such as candillia wax, carnauba wax, Japan wax, esparto grass wax, céric wax, guarum wax, rice bran wax, sugar cane wax, oreycury wax, montan wax, bees wax, shellac wax, wallat, lanolin (wool wax), tail root fat, ceresin, ozocerite (earth wax), petrolatum, paraffin wax, micro waxes, chemically modified waxes (hard waxes) such as montan ester waxes, sasol waxes, hydrated jujube waxes, as well as synthetic waxes and polyethylene glycol waxes. In addition to fats, certain compounds that are similar to fats may be added, such as lecithins and phospholipids. With lecithins, the person skilled in the art means those glycerophospholipids, which can be formed by esterification of fatty acids, glycerin, phosphoric acids and choline. In the art, lecithins are therefore also often referred to as phosphatidylcholine (PC) and can be characterized by the following general formula:

![Chemical structure](image)

wherein R typically represents linear aliphatic hydrocarbon moieties having 15 to 17 carbon atoms and up to 4 cis-double bonds. Examples of natural lecithins are compounds from the group of Cephalins, which are also referred to as phosphatide acids, and derivatives of 1,2-diacyl-sn-glycerin-3-phosphoric acids.

[0041] Examples of suitable phospholipids are mono-esters and, preferably, di-esters of phosphoric acids and glycerin (i.e. glycerin phosphates), which are generally regarded as fatty substances. Sphingosines or better sphingolipids are other examples of suitable additives.

[0042] Metal salts of fatty acids, such as magnesium-, aluminium- and/or zinc stearate respectively -ricinoleate can be employed as stabilizing agents.

[0043] Suitable biologically active additives include tocopherol, tocopherol acetate, tocopherol palmiate, ascorbic acid, deoxyribonucleic acid, retinol, bisabolol, allantoin, phytaantiol, panthenol, AHA acids, amino acids, ceramides, pseudoceramides, essential oils, plant extracts and vitamin C complexes.

[0044] Cosmetic anti bacterial agents are active against the development of body odors. Body odors develop due to the activity of dermal bacteria on apocrine perspiration, during which unpleasantly smelling metabolites are formed.

[0045] Suitable anti bacterial agents include germination inhibiting compounds which are in principle active against all gram positive bacteria, such as 4-hydroxybenzoic acid and salts plus esters thereof, N-(4-chlorophenyl)-N’-(3,4-dichlorophenyl)urea, 2,4,4′-trichloro-2′-hydroxy-diphenyl ether (Triclosan), 4-chloro-3,5-dimethylphenol, 2,2′-methylenebis(6-brom-4-chlorophenol), 3-methyl-4-(1-methylthyl)phenol, 2-benzyl-4-chlorophenol, 3-(4-chlorophenoxy)-1,2-propanediol, 3-iodo-propynylbutyl carbamate chlorohexidin, 3,4,4′-trichloro carbanilate (TTC), antibacterial fragrant compounds, thymol, thymian oil, eugenol, clove oil, menthol, mint oil, fenresol, phenoxyethanol, glycerin-monolaurate (GML), diglycerin-monocaprinate (DMC), salicylic acid-N-alkylamide such as salicylic acid-n-octylamide or salicylic acid-n-decylamide. Furthermore enzyme inhibitors can be used to help to prevent the production of undesired body odors. Esterase inhibitors, for example, are suitable for this purpose in compositions according to the invention. Preferred enzyme inhibiting agents are trialkylcitrates, such as trimethylcitrate, tripropylcitrate, triisopropylcitrate, tributylcitrate and in particular triethycitylate (Hydagen®© Cat, Henkel KGaA, Dusseldorf/FRG). The compounds inhibit the enzyme activity and reduce the formation of odorous compounds. Other suitable esterase inhibiting compounds are for example sterolsulphates or -phosphates, such as lanosterin-, cholesterin-, campesterin-, stigmasterin and stigmasterinsulphate respectively -phosphate. Dicarboxylic acids and esters thereof, such as glutaric acids, glutaric acid mono-ethylesters, adipinic acid,
adipinic acid monoethyl ester, adipinic acid diethyl ester, malonic acids and malonic acid diethyl ester, hydroxy carboxylic acids and esters thereof such as citric acid, malic acid, tartaric acid or tartaric acid diethyl ester as well as zinc glycinate.

[0046] In addition odor-absorbing agents may be used to suppress the formation of a undesired scent. Suitable compounds decrease the partial pressure of the single components and as such decrease the velocity of spreading. It is important that perfume compositions are not absorbed significantly. Odor-absorbing agents are normally not directly active against bacteria. They comprise for example as primary component a complex of a zinc salt of ricinoleic acid or special fragrance-neutral perfume compounds, known to the skilled professional as fixatives. Examples of these fixatives are labdanum extracts respectively Styrax or certain abietic acid derivatives. Furthermore perfume compounds, including fragrant oils, may serve as masking agents and also may give a typical fragrant character to compositions. Examples of fragrant oils are mixtures of natural and synthetic fragrant compounds. Examples of natural fragrant compounds are extract of flowers, stems, leaves, fruits, fruit skin, fruit peel, roots, woods, herbs, grasses, needles and branches, as well as resins and balms. Furthermore materials of animal origin are suitable, such as civet or castoreum. Typical synthetic fragrant compounds are esters, ethers, aldehydes, ketones, alcohols and hydrocarbons. Examples of fragrant esters as benzylacetate, p-tert-butylcyclohexylacetate linalyl acetate, phenoxyethylectate, benzylbenzoate, benzylformate, allylcyclohexyl-propionate, styrallylpropionate and benzylsaliclyte. An example of a suitable ether is benzylethyl ether. Examples of suitable aldehydes are linear alkanals having 8-18 carbon atoms, citral, citronellal, citronellylloxyacetel aldehyde, cyclamendehyde, hydroxycitroneill, lillian and bourgeonal. Examples suitable ketones are jenones and methyclydylketone. Examples of suitable alcohols are anethol, citronellol, eugenol, isoeugenol, geraniol, linalool, phe- nylethyl alcohol and terpineol and examples, of the hydrocarbons mainly terpenes and balms. Preferably mixtures of different fragrant compounds, resulting in a pleasant aroma, are employed. Also commonly used aromatic compounds of the group of etheric oils of low volatility, are suitable perfume oils. Examples of these are sage oil, camille oil, clove oil, balm mint oil, mint oil, cinnamone oil, linden-blossom oil, juniper oil, vetiver oil, obikanum oil, galbanum oil, labdanum oil and lavender oil. Preferred are bergamot oil, dihydromyrcenol, lilial, lyral, citronellol, phenoxyethylethyl alcohol, α-hexylcin- namon aldehyde, geraniol, benzylacetone, cyclamen aldehyde, linalool, boisambre forentes, ambroxon, indol, hedione, sandelic, citron oil, mandarin oil, orange oil, allylamylglycolate, cyclovertal, lavender oil, muscate sage oil, β-damascone, geranium oil bourbon, cyclohexylsalicyl, vertofix coeur, iso-E-super, fixolede NP, evemyl, iraldein gamma, phe- nyl-acetic acid, geranyl acetate, benzyl acetate, rose-oxide, rocmile, irotyl and floramate, either employed alone or in a mixture.

[0047] Anti-perspirants reduce the formation of perspiration by influencing the activity of exocrine perspiratory glands, and as such help to prevent wetting of arm pits as well as the formation of body odors. Aqueous or non aqueous compositions of Anti-perspirants typically comprise the following ingredients:

- astringent agents;
- oil compounds;
- non ionic emulsifying agents;
- co-emulsifying agents;
- strength improving agents;
- aiding compounds such as thickening agents or complexing agents; and/or
- non-aqueous solvents such as ethanol, propylene glycol; and/or glycerin.

[0048] Examples of astringent agents are in particular all salts of aluminum, zirconium and zinc, such as aluminum chloride, aluminumchlorhydrate, aluminumdiclorhydrate, aluminiumsesqui-chlorhydrate, and complexes thereof, e.g. with propylene glycol 1.2, Aluminiumhydroxyllantionate, aluminiumchloridetartrate, aluminium-zirconium-trichlorhydr- drate, aluminium-zirconium-tetrachlorhydrate, aluminium-zirconium-pentachlorhydrate and complexes thereof, for example with amino acids such as glycine. In addition anti-perspirants may comprise the usual oil soluble and water soluble aiding agents in lower concentrations. Examples of oil soluble aiding agents are:

- infection inhibiting, skin protecting or fragrant ethereal oils;
- synthetic skin protecting agents; and/or
- oil soluble perfume oils.

[0049] Suitable antidendruff are for example Octopirox® (1-hydroxy-4-methyl-6-(2,4,4-trimethylpenty)-2-(1H)-pyridon-monoethanolamine salt, Babypival, Pirocon Olamin, Ketoconazol®, (4-acetyl-1-{[4-[2-(2,4-dichloroph- enyl)]-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolane-c-4-ylmethoxyphenyl] piperazin, selenedisulfide, sulfur colloidals, sulfurnyltetraylacetosorbil-boric acid, sulfurnicin-polyethoxylation, sulfurtar destillate, salicylic acid (in particular in combination with hexachlorophoren), underyned acid monooethylamid sulfosucinate Na-salt, Lamepon® UD (protein- undecylene acid condensate, zincpyrethione, aluminumpyrethione and magnesiumpyrethione/dipyrethione-magnesi- umsulfate.
EP 1 212 033 B1

[0050] Usual film-forming agents include chitosan, micro crystalline chitosan, quaternary chitosan, polyvinylpyrolidon, vinylpyrolidon-vinylacetate-copolymerisate, polymers of acrylic acid, quaternary cellulose derivatives, collagen, hyaluronic acid, respectively salts thereof and similar compounds.

[0051] Suitable swelling agents for aqueous phases include montmorillonites, clay mineral compounds, pemules, as well as alkylated carbopolytypes (Goodrich). Furthermore, polymers suitable as swelling agents can be found in the overview by R. Lochhead in cosm. Toil. 108, 95 (1993).

[0052] Suitable UV-filters are for example compounds - liquid or crystalline at room temperature - that are capable of absorbing ultraviolet radiation and of releasing the absorbed energy in the form of electromagnetic radiation of a longer wavelength, e.g. in the form of infra red radiation. UVB filters may be oil soluble or water soluble. Examples of oil soluble compounds are:

- 3-benzylidenecamphor respectively 3-benzylidennorcamphor and derivatives thereof, such as 3-(4-methylbenzyliden)-camphor as further described in EP 0693471;
- 4-aminobenzonic acid derivatives, preferably 4-dimethylaminobenzoic acid-2-ethylhexyl ester, 4-(dimethylamino) benzoic acid-2-octyl ester and 4-dimethylaminobenzoic acid amyl ester;
- esters of cinnamon acid, preferably 4-methoxy-cinnamon-2-ethylhexyl ester, 4-methoxy-cinnamon acid propyl ester, 4-methoxy-cinnamon acid isoamyl ester 2-cyano-3,3-phenyl cinnamon acid-2-ethylhexyl ester (octocrylene);
- esters of salicylic acid, preferably salicylic acid-2-ethylhexyl ester, salicylic-4-isopropylbenzyl ester, salicylic acid homomethyl ester;
- derivatives of benzophenones, preferably 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxy-4'-methylbenzophenone, 2,2'-di-hydroxy-4-methoxybenzophenone;
- esters of benzalmalonal acid, preferably 4-methoxylbenzalonal acid di-2-ethylhexyl ester;
- triazin derivatives, e.g. 2,4,6-trianolino-(p-carbo-2'-'ethyl-1'-hexoxy)-1,3,5-triazin and octyl triazion, as described in EP 0 818 450 A1 or diocyl butamido triazone (Uvasorb® HEB);
- propane-1,3-dione, e.g. 1-(4-tert butylphenyl)-3-(4'-methoxyphenyl)propane-1,3-dione;
- ketotricyclo(5.2.1.0)decane-derivatives as described in EP0694521B1.

[0053] Examples of water soluble UV-filters are:

- 2-phenylbenzimidazol-5-sulfonic acid and alkali-, earth alkali-, ammonium-, alkylammonium-, alkolanammonium- and glucammonium salts thereof;
- sulfonic acid derivatives of benzophenon, preferably 2-hydroxy-4-methoxybenzophenone-5-sulfonic acid and salts thereof;
- sulfonic acid derivatives of 3-benzylidendamphors, e.g. 4-(2-oxo-3-bornylidenemethyl)benzol-sulfonic acid and 2-methyl-5-(2 oxo-3-bornylidene)sulfonic acid and salts thereof.

[0054] Typical examples of UV-A filters are derivatives of benzoylmethane, such as 1-(4'-tert-butylphenyl)-3-(4'-methoxyphenyl)-propane-1,3-dione as well as enamine compounds as described in DE 19712033 A1 (BASF). Naturally it is possible to employ mixtures of UV-A and UV-B filters. In addition to the already mentioned soluble compounds, non-soluble sun-screen pigments may also be employed. In particular small dispersed metal oxide particles and metal salts, such as zinc oxide, titanium dioxide, oxides of respectively iron, zirconium, silicium, manganese, aluminum and cerium, as well as mixtures thereof, the salts of silicates (talcum), barium sulfate and zinc stearate. The oxides and salts are employed in compositions for skin care or skin protective emulsions and in decorative cosmetics. The particles should have an average diameter of less than 100 nm, preferably between 5 and 50 nm, more preferably between 15 and 30 nm. The particles may have a spherical, ellipsoidal or other shape. Optionally the surfaces of pigments may have been treated, i.e. by hydrophihization or hydrophobization. Typical examples are coated titanium dioxide, such as titanium dioxide T 805 (Degussa) or Eusolex® T2000 (Merck). Typical examples of hydrophobic coating agents are silcones and particularly trialkoxyoctylsilanes or Simethicones. So called micro- or nanopigments are preferably employed in sun screen compositions. Preferably micrornized zinc oxide is used. Further examples of suitable UV-filters can be found in the overview of P. Finkel in SÖFW-Journal 122, 543 (1996).

[0055] In addition to the group of primary protective agents, as mentioned above, it is also possible to use secondary light protective agents of the group of antioxidants which can stop photochemical reaction chains. These photochemical reactions are induced by UV-radiation as it enters the skin. Typical examples of suitable antioxidants are amino acids such as glycine, histidine, tyrosine, tryptophane, and derivatives thereof, imidazoles such as urocanic acid, and derivatives thereof, peptides, e.g. D,L-carnosin, D-carnosin, L-carnosin and their derivatives (e.g. anserin), carotinoids, carotins, (e.g. α-carotin, β-carotin, lycopin) and derivatives thereof, chlorogenic acid and their derivatives, liponic acids and their derivatives (e.g. dihydrodiprinic acid), aurothiolglucose, propylthiouracil, and other thiols (e.g. thioredoxin, glutathion, cystein, cystin, cystamin,and glycosyl-, N-acetyl-, methyl-, ethyl-, propyl-, amyl-, butyl- and lauryl-, palmitoyl-,
Sage oil, camellia oil, clove oil, balm mint oil, mint oil, cinnamon oil, linden-

resulting in a preferred aroma. In addition, etheric oils of low volatility, are suitable perfume oils. Examples of these are

anethol, citronellol, eugenol, iso-
muscate sage-

ambroxan, indol, hedione, sandelice, citron-oil, mandarin-oil, orange-oil, allylmalylglycolate, cycovertal, lavender-oil,
muscate sage-oil, β-damascone, geranium-oil bourbon, cyclohexylsalicylate, vertofex coeur, iso-E-super, fixolide NP,
evemyl, iraldein gamma, phenyl-acetic acid, geranyl acetate, benzyl acetate, rose-oxide, romilate, irotyl and floramate, either employed alone or in a mixture.

[0059] Suitable colorants are any colorants that are suitable for cosmetic purposes, as for example mentioned in the publication "Kosmetische Farbemittel" der Farbstoff-kommission der Deutschen Forschungsgemeinschaft, Verlag Chemie, Weinheim, 1984, S. 81-16". Such colorants are usually employed in concentrations varying from 0.001 to 0.1 % w/w based on the weight of the composition.

[0060] The total amount of additives can vary from 1 to 50 preferably from 5 to 40 % w/w based on the weight of the composition.

[0061] The balance of the composition will generally be made up by water. Optionally, a small amount of an alcohol, such as ethanol or isopropanol may be present, e.g. to achieve a disinfecting effect. Water will typically be present in an amount ranging from 50 to 95 wt. % based on the weight of the composition.

[0062] The compositions can be prepared according to the usual cool or heated processes; a preferred method of preparation is a phase-inversion temperature method.

[0063] Dependent on the chosen ingredients of the composition as set forth above, a cosmetics composition according to the invention may find application as a sun cream or lotion, body milk, shampoo, bathing or shower gel, hair care product, deodorant or moisturizing cream. If desired, the present composition may also be employed in a pharmaceutical setting, for instance as an ointment. In such a case, the composition will further comprise a pharmaceutically active agent or a bioactive agent.

[0064] The invention will now be elucidated by the following, non-restrictive examples.

Example 1

[0065] A composition was prepared of the following ingredients in the following amounts (wt.%):

- Surfactants: Magnesium Laureth Sulfate (1) 11.43
  Lauryl Glucoside (2) 5.19
- pH regulator: Citric acid 0.11
- Preservative: Kathon CG 0.06
- Thickener: Xanthan gom 0.80
- Moisturizing agent: Glycerin 5.00
- Emollient: Cetiol HE 2.00
- Conditioning agent: Merquat Plus 3331 1.00
- Perfume 1.00
- Coloring agent: Patentblue V E 131 0.0015
- Water Balance

[0066] The composition was prepared by first adding the water to a vessel. Next, in subsequent order, the preservative and the thickener were added. These components were mixed and homogenized until the thickener was swollen and fully dispersed. To the obtained dispersion, the surfactants were added separately with mixing to fully disperse the surfactant after each addition. The remaining ingredients, except the citric acid, were then added and mixing was continued until all were fully dispersed. Finally, the pH was adjusted by addition of the citric acid.

[0067] This composition was then cooled to below 10°C. The propellant to be added, isopentane, was also cooled to said temperature. The composition and the propellant were mixed with one another while taking care that no air was incorporated at constant temperature. The propellant was added in an amount to finally reach a concentration of 6 wt. %, with respect to the total weight of the final composition. After thorough mixing, the composition was allowed to warm up and brought into a suitable plastic container while still having a temperature below 20°C.

Example 2

[0068] Six compositions were prepared. Three were in accordance with the present invention (A, B, C), and three were not (CA, CB, CC). For the preparation of the compositions, a surfactant mixture comprising a thickener was mixed with pentane at a pH of 5.5-6.5. The viscosities were measured using the Brookfield method at 23°C (‘Spindel T6’, 5 rpm) in mPas. The results are shown in Table 1.
Claims

1. Cosmetics composition comprising a thickener, a propellant which is iso-pentane, a surfactant and water, wherein the composition is contained in a container under a pressure of at least 0.1 bar in excess of atmospheric pressure and below 3 bar, and wherein the composition has the form of a gel having a viscosity of 10,000 to 50,000 mPas, measured as Brookfield viscosity (23°C, spindle TE, 5 Rpm).

2. Composition according to claim 1, wherein the pressure is no more than 2 bar.

3. Composition according to claim 1 or 2, wherein the container is a plastic container.

4. Composition according to any of the claims 1-3, wherein said composition comprises at least two surfactants and a hydrophobic compound having a HLB-value of less than 10.

5. Composition according to any of the preceding claims, comprising from 0.01 to 30 wt.% of thickener, from 1 to 15 wt.% of propellant, from 0.5 to 50 wt.% of surfactant and the balance being water and other customary body care ingredients.

6. Composition according to any of the preceding claims, wherein the thickener is chosen from the group of gums, poly(meth)acrylates, polymers based upon aerosil-types, polysaccharides, high molecular polyethylene glycol monono- and diesters of fatty acids, polyacylamides, polyvinylalcohols, polyvinylpyrrolidons, esters of fatty acids with polylols, fatty alcoholethoxylates, alkyloligoglucosides and sugar-esters.

7. Composition according to claim 6, wherein the thickener is chosen from xanthan gom, guar-guar, agar-agar alginates, tyloses, carboxymethylcellulose, hydroxyethylcellulose.

8. Composition according to any of the preceding claims further comprising one or more ingredients chosen from the group of pH regulating agents, oil bodies, emulsifying agents, preservatives, perfumes, moisturizing agents, UV-filters, emollients, superfatting agents, brighteners, strength improving agents, silicon agents, fats, waxes, lecithins, phospholipids, stabilizing agents, anti-bacterial agents and other bioactive agents, odor-absorbing agents, antiperspirants, antidandruff agents, film-forming agents, swelling agents, antioxidants, insect-repellents, hydrotopes, tanning agents, tyrosin inhibitors, solubilizers and colorants.

9. Composition according to any of the preceding claims, wherein said composition comprises a fatty alcohol preferably of the formula R_1OH, R_1 being an aliphatic hydrocarbon group containing 6 to 22 carbon atoms and 0,1,2, or 3 double bonds.

10. Composition according to any of the preceding claims, wherein said composition comprises a fatty alcoholalkoxyxylate preferably of the formula R_2O(AlkO)_(m-H), R_2 being an aliphatic hydrocarbon group containing 6 to 22 carbon atoms, m being an integer from 1 to 30 and AlkO being an alkyleneoxide.
11. Composition according to any of the preceding claims, wherein said composition comprises a fatty alcoholalkoxylate of the formula R₂O(AlkO)ₘH, R₂ being an aliphatic hydrocarbon group containing 8 to 22 carbon atoms, m being an integer from 5 to 20 and AlkO being chosen from ethyleneoxide and propylene oxide.

12. Composition according to any of the preceding claims wherein said composition comprises:

a) 0.01 to 30 % w/w of a thickener,
b) 0.1 to 20 % w/w of a hydrophobic compound having an HLB value of less than 10,
 l) 0.5 to 40 % anionic surfactants,
m) 0.25 to 5 % amphoteric surfactants, and/or
 n) 0.5 to 40 % nonionic surfactants,

and is further characterized by the composition having a weight ratio of components c:d or c:e being in the range of 2:1 to 8:1.

13. Container comprising a cosmetics composition according to any of the preceding claims.

14. Use of a composition according to any of the claims claim 1-14 as a sun cream or lotion, body milk, shampoo, bathing or shower gel, ointment, deodorant, hair care product or moisturizing cream.
10. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei die Zusammensetzung ein Fettkoholahlk- oxylat umfasst, vorzugsweise der Formel 

\[ R_2O(AlkO)_mH, \]

wobei \( R_2 \) eine aliphatische Kohlenwasserstoffgruppe ist, die 6 bis 22 Kohlenstoffatome enthält, \( m \) eine ganze Zahl von 1 bis 30 ist und AlkO ein Alkylenoxid ist.

11. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei die Zusammensetzung ein Fettkoholahlk- oxylat der Formel 

\[ R_2O(AlkO)_mH \]

umfasst, wobei \( R_2 \) eine aliphatische Kohlenwasserstoffgruppe ist, die 8 bis 22 Kohlenstoffatome enthält, \( m \) eine ganze Zahl von 5 bis 20 ist und AlkO aus Ethylenoxid und Propylenoxid ausgewählt ist.

12. Zusammensetzung gemäß einem der vorstehenden Ansprüche, wobei die Zusammensetzung Folgendes umfasst:

- a) 0,01 bis 30 Gew.-% eines Verdickungsmittels;
- b) 0,1 bis 20 Gew.-% einer hydrophoben Verbindung mit einem HLB-Wert von weniger als 10;
- l) 0,5 bis 40% anionische Tenside;
- m) 0,25 bis 5% amphotere Tenside; und/oder
- n) 0,5 bis 40% nichtionische Tenside;

und weiterhin dadurch gekennzeichnet ist, dass die Zusammensetzung ein Gewichtsverhältnis von Komponenten c:d oder c:e aufweist, das im Bereich von 2:1 bis 8:1 liegt.


9. Composition selon l’une quelconque des revendications précédentes, dans laquelle ladite composition comprend un alcool gras, de préférence de formule R₁OH, R₁ étant un groupe hydrocarboné aliphatique contenant 6 à 22 atomes de carbone et 0,1,2, or 3 double liaisons.

10. Composition selon l’une quelconque des revendications précédentes, dans laquelle ladite composition comprend un alkoxylate d’alcool gras, de préférence de formule R₂O(AlkO)ₓH, R₂ étant un groupe hydrocarboné aliphatique contenant 6 à 22 atomes de carbone, m étant un nombre entier compris entre 1 et 30 et AlkO étant un oxyde d’alkyle.

11. Composition selon l’une quelconque des revendications précédentes, dans laquelle ladite composition comprend un alkoxylate d’alcool gras de formule R₂O(AlkO)ₓH, R₂ étant un groupe hydrocarboné aliphatique contenant 8 à 22 atomes de carbone, m étant un nombre entier compris entre 5 et 20 et AlkO étant un oxyde d’éthylène ou de propylène.

12. Composition selon l’une quelconque des revendications précédentes dans laquelle ladite composition comprend:

   a) 0,01 à 30 % en poids d’un agent épaississant,
   b) 0,1 to 20 % en poids d’un composé hydrophobe ayant une valeur HLB inférieure à 10,
   l) 0,5 to 40 % d’un agent tensioactif anionique,
   m) 0,25 to 5 % d’un agent tensioactif amphotère, et/ou
   n) 0,5 to 40 % d’un agent tensioactif non ionique

   et ladite composition étant en outre caractérisée en ce que le rapport pondéral des composants c/d ou c/e est compris entre 2/1 et 8/1.


14. Utilisation d’une composition selon l’une quelconque des revendications 1-14 en tant que crèmes ou lotions solaires, laits corporels, shampooings, gels de bain ou de douche, onguents, déodorants, produits capillaires ou crèmes hydratantes.
REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- DE 4315405 [0003]
- US 3541581 A [0004]
- US 4735747 A [0005]
- WO 9938490 A [0006]
- US 5679324 A [0007]
- WO 0039273 A [0008]
- DE 3839349 [0009]
- DE 1165574 [0029]
- DE 2024051 [0030]
- EP 0693471 A [0052]
- EP 0818450 A1 [0052]
- EP 0694521 B1 [0052]
- DE 19712033 A1 [0054]

Non-patent literature cited in the description