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(71) Applicant: **SYMRISE AG** [DE/DE]; Mühlenfeldstraße 1, 37603 Holzminden Niedersachsen (DE).

(72) Inventors: **LOURENÇO, Carolina**; Estrada do Capuava 2333, casa 105, CEP 06715-725 Cotia, São Paulo, SP, (BR). **MORAES, Christiane**; Rua Dom Paulo Pedrosa, 971, CEP 05687-901 São Paulo, SP (BR).

(74) Agent: **IP2 PATENTANWALTS GMBH**; Schlossstr. 523-525, 41238 Mönchengladbach (DE).

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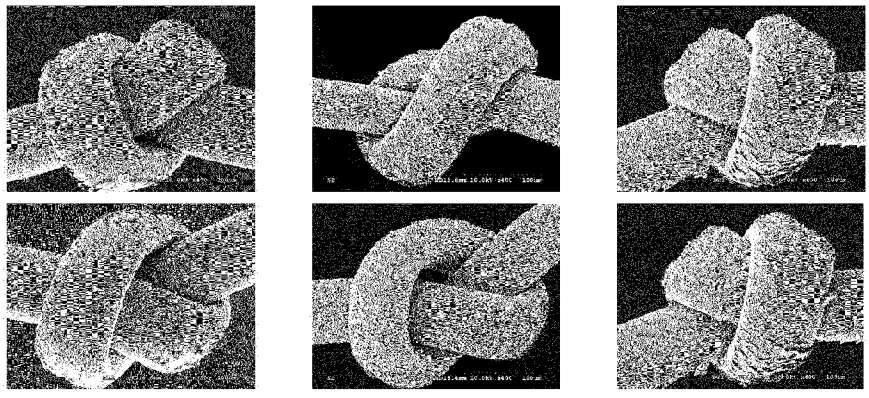


Figure 1

(57) Abstract: Suggested is a plant peptide fraction, obtainable or obtained according to the following steps: (a) providing lupine seeds; (b) dehulling and milling said lupine seeds; (c) subjecting the seeds of step (b) to an extraction to obtain a first peptide fraction; (d) subjecting the first peptide fraction of step (c) to enzymatic hydrolysis; (e) subjecting the hydrolyzed PEPTIDE fraction of step (d) to ultra- or nanofiltration to obtain a retentate and a permeate, said permeate enriched in peptide s showing a molecular weight below 2,000 Dalton; and (f) optionally drying the permeate of step (e).

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Plant peptides and their applications

AREA OF INVENTION

[0001] The present invention belongs to the area of cosmetics and refers to a defined plant peptide fraction obtained from *Lupinus Angustifolius*, a process for obtaining said fraction, cosmetics comprising the fractions and the use of the fractions for cosmetic purposes.

BACKGROUND OF THE INVENTION

[0002] Recent market studies show that 55% of consumers look for moisturizing and smoothing benefits when purchasing hair care products. 92% believe that natural ingredients have a genuine benefit in personal care products. Beyond that, the hair care companies seek simple and effective products to meet different needs by bringing the solution through a single ingredient.

RELEVANT PRIOR ART

[0003] US 4,892,727 (L'ORAL) discloses a cosmetic or dermo-pharmaceutical composition comprises in an appropriate support or vehicle, a powder of sweet lupine seeds essentially free of alkaloids.

[0004] EP 1373176 B1 (LAB EXPANSCIENCE) refers to an extract from the pods of lupine seeds containing lupeol, more particularly an extract wherein the content thereof by weight is greater than 30 percent, preferably greater than 50 percent, even more advantageously 70-100 percent The invention also relates to a method for obtaining said extract.

[0005] WO 2006 003110 A1 (FRAUNHOFER) suggests a process wherein lupine seeds from lupine, for example from *Lupinus albus* and *Lupinus angustifolius,* are crushed and transformed into flakes. By taking into account the features of the protein isolates or concentrates desired, and the lipid content of the original material, lipids (oil) are or are not extracted using a suitable solvent (prevalently hexane), by percolation of the solvent through the flakes placed in a tubular reactor. The solvent is then eliminated in controlled temperature conditions. Alternatively, lipids can be removed also by extraction with supercritical carbon dioxide.

[0006] Finally, **WO 2106 051000 A1** (CONSEJO SUPERIOR INVESTIGACION) relates to a specific peptide, isolated in a lupine protein hydrolysate, to the method for the production thereof by means of hydrolysis with alcalase, and to the use there of in the treatment of inflammatory diseases.

OBJECT OF THE INVENTION

[0007] Therefore, it has been the object of the present invention providing new cosmetic ingredient based on plant origin that meet the specific needs of the market and make human skin and hair healthier, brighter, softer, more moisturized and in particular prevent keratin fibers against damage caused for example by bleaching.

BRIEF DESCRIPTION OF THE INVENTION

[0008] A first object of the present invention refers to a plant peptide fraction, obtainable or obtained according to the following steps:

(a) providing lupine seeds;

(b) dehulling and milling said lupine seeds;

(c) subjecting the seeds of step (b) to an extraction to obtain a first peptide fraction;

(d) subjecting the first peptide fraction of step (c) to enzymatic hydrolysis;

(e) subjecting the hydrolyzed peptide fraction of step (d) to ultra- or nanofiltration to obtain a retentate and a permeate, said permeate enriched in peptides showing a molecular weight below 2,000 Dalton; and

(f) optionally drying the permeate of step (e).

[0009] Surprisingly it has been found that a specific peptide fraction obtained from lupine seeds showing a defined low molecular weight provide extraordinary results in view of protecting human skin and particular human hair. The proteins penetrate very fast into the lipid layer as well as into the keratin fibers and protect them against damaging, for example against damages caused by bleaching agents.

[0010] The peptide fractions are substantially free of gluten, which means that the gluten content is either zero or less than 100 ppm. While it is possible to provide the fractions as powders, for example via spray-drying or lyophilization of the aqueous permeates, it is more convenient to formulate them as aqueous solutions showing a protein content of from about 1 to about 5 wt.-% and preferably of from 1.5 to 2 wt.-%.

[0011] Another object of the present invention relates to a process for obtaining a plant peptide fraction, encompassing or consisting of the following steps:

(a) providing lupine seeds;

(b) dehulling and milling said lupine seeds;

(c) subjecting the seeds of step (b) to an extraction to obtain a first peptide fraction;

(d) subjecting the first peptide fraction of step (c) to enzymatic hydrolysis;

(e) subjecting the hydrolyzed peptide fraction of step (d) to ultra- or nanofiltration to obtain a retentate and a permeate, said permeate enriched in peptide s showing a molecular weight below 2,000 Dalton; and

(f) optionally drying the permeate of step (e).

LUPINE SEEDS

[0012] *Lupinus*, commonly known as lupin or lupine, is a genus of flowering plants in the legume family, Fabaceae. The genus includes over 200 species, with centers of diversity in North and South America. Smaller centers occur in North Africa and the Mediterranean. They are widely cultivated, both as ornamental plants and due to their high protein content as a food source. Some lupines contain certain secondary compounds, including isoflavones and toxic alkaloids, such as lupinine and sparteine. With early detection, these can be removed through processing, although lupines containing these elements are not usually selected for food-grade products. In its current circumscription, subgenus *Lupinus* includes 12 species from the Mediterranean region and Africa with at least four ovules or seed buds in the ovary:

- *Lupinus albus* L. 1753 – white lupine
- *Lupinus angustifolius* L. 1753 – blue lupine, narrow-leafed lupine
- *Lupinus atlanticus* Gladstones 1974
- *Lupinus cosentinii* Guss. 1828 – sandplain lupine
- *Lupinus digitatus* Forsk. 1775
- *Lupinus hispanicus* Boiss. & Reut. 1842
- *Lupinus luteus* L. 1753 – yellow lupine
- *Lupinus micranthus* Guss. 1828
- *Lupinus palaestinus* Boiss. 1849 – white-grey lupine
- *Lupinus pilosus* Murr. 1774 – blue lupine
- *Lupinus princei* Harms 1901
- *Lupinus somaliensis* Baker f. 1895

[0013] The family itself contains more than 1000 subspecies including those where a reliable taxonomic status is missing. The preferred species according to the present invention is, however, *Lupinus angustifolius.*

EXTRACTION

[0014] The extracts according to the present invention may be prepared by methods known per se, i.e. for example by aqueous, alcoholic or aqueous/alcoholic extraction of the plants or parts thereof. Suitable extraction processes are any conventional extraction processes, such as maceration, re-maceration, digestion, agitation maceration, vortex extraction, ultrasonic extraction, counter current extraction, percolation, re-percolation, evacolation (extraction under reduced pressure), diacolation and solid/liquid extraction under continuous reflux. Percolation is advantageous for industrial use. Lupine seeds are preferably used as the starting material and may be mechanically size-reduced before the extraction process. Any size reduction methods known to the expert, for example freeze grinding, may be used.

[0015] Preferred solvents for the extraction process are organic solvents, water (preferably hot water with a temperature above 80 °C and more particularly above 95 °C or mixtures of organic solvents and water, more particularly low molecular weight alcohols with more or less high water contents. Extraction with water, methanol, ethanol, ethyl acetate and water-containing mixtures thereof is particularly preferred.

[0016] The extraction process is generally carried out at about 20 to about 100 °C and preferably at about 50 to about 70 °C. In one preferred embodiment, the extraction process is carried out in an inert gas atmosphere to avoid oxidation of the ingredients of the extract. This is particularly important where extraction is carried out at temperatures above 40 °C. The extraction times are selected by the expert in dependence upon the starting material, the extraction process, the extraction temperature and the ratio of solvent to raw material, etc.

[0017] After the extraction process, the crude extracts obtained may optionally be subjected to other typical steps, such as for example purification, concentration and/or decoloration.

[0018] If desired, the extracts thus prepared may be subjected, for example, to the selective removal of individual unwanted ingredients. The extraction process may be carried out to any degree, but is usually continued to exhaustion. Typical yields (=extract dry matter, based on the quantity of raw material used) in the extraction of the starting materials are of the order of about 1 to about 20, %, preferably about 2 to about 15 and more preferably about 5 to about 10 % b.w. - calculated on the starting materials.

ENZYMATIC HYDROLYSIS

[0019] The peptide fraction obtained from the extraction step is subjected to an enzymatic hydrolysis in order to break down the molecular weight of the peptides, which typically reaches up to 200.000 Dalton. Suitable enzymes encompass peptidases, such as for example:

- Serine proteases - using a serine alcohol;

- Cysteine proteases - using a cysteine thiol;
- Threonine proteases - using a threonine secondary alcohol;
- Aspartic proteases - using an aspartate carboxylic acid;
- Glutamic proteases - using a glutamate carboxylic acid;
- Metalloproteases - using a metal, usually zinc
- Asparagine peptide lyases - using an asparagine to perform an elimination reaction (not requiring water).

[0020] Hydrolysis can be conducted in acidic, alkaline or neutral medium at a temperature of from about 25 to about 35 °C depending on the specific optimum of the peptidase. Preferred are aspartic and serine proteases such as pepsin, chymosin, cathepsin, papain and mixture thereof. Hydrolyzation can take place continuously or batch-wise. A continuous working hydrolyzation reactor is for example disclosed in **EP 2907393 A1** (DMK). Hydrolyzation typically requires 2 to 5 hours to breakdown the polypeptides into oligopeptides having a molecular weight of about 100 to about 20.000 Dalton.

ULTRA- AND NANOFILTRATION

[0021] The hydrolyzation product is subsequently subjected to an ultra- or nanofiltration step. Ultra- and nanofiltration are filtration processes from the field of membrane technology, with which macromolecular substances and small particles can be separated from a medium and concentrated. A distinction is made between microfiltration, ultrafiltration and nanofiltration by the degree of separation. If the exclusion limit (or "cut-off") is 100 nm or higher, this is referred to as microfiltration. If the exclusion limit is in the range between 2-100 nm, this is called ultrafiltration. In nanofiltration, the exclusion limit is below 2 nm. In each of these cases it is a purely physical, i.e. mechanical membrane separation process that works according to the principle of mechanical size exclusion: all particles in the fluids that are larger than the membrane pores are retained by the membrane. The driving force in both separation processes is the differential pressure between inlet and outlet of the filter surface, which is between 0.1 and 10 bar.

[0022] The exclusion limits of ultrafiltration membranes are also given in the form of the NMWC (Nominal Molecular Weight Cut-Off, also MWCO, Molecular Weight Cut Off, Unit: Dalton). It is defined as the minimum molecular mass of globular molecules, 90% of which are retained by the membrane. In practice, the NMWC should be at least 20 % lower than the molecular weight of the molecule to be separated. Further qualitative statements about the filtration can be made on the basis of the flux (water value) (transmembrane flow or passage rate). Ideally, this is proportional to the transmembrane pressure and reciprocally to the membrane resistance. These parameters are determined by the properties of the

membrane used as well as by concentration polarization and possible fouling. The penetration rate is referred to 1 m2 membrane area. Its unit is l/(m2h bar).

[0023] Membranes that have a pore diameter in the range of about 1,000 to about 50,000 and preferably about 5,000 to about 25,000 Dalton have proven to be particularly suitable for ultrafiltration. Nanofiltration prefers pore diameters in the range of 100 to 5,000 and preferably about 500 to 2,000 Daltons.

[0024] The material of the filter surface - both in ultrafiltration and nanofiltration - can be stainless steel, polymer materials, ceramics, aluminum oxide or textile fabrics. There are different types of filter elements: candle filters, flat membranes, and spiral wound membranes, pocket filters and hollow fiber modules, all of which are basically suitable in the sense of this invention. However, spiral wound membranes made of polymer materials or candle filters made of ceramics or aluminum oxide are preferably used, whereby the first design has proved to be particularly suitable for ultrafiltration and the second for nanofiltration.

[0025] Both ultrafiltration and nanofiltration can be carried out "hot" or "cold", i.e. in the temperature range from about 10 to about 60 °C, in the sense of the present invention. It is, however, preferable to work at temperatures in the low range of about 20 to about 30 °C. This means that the temperature range of the invention is "hot" or "cold".

[0026] Ultrafiltration and nanofiltration can also be combined; the standard operation, however, is a single nanofiltration. The preferred pore size ranges from about 100 to about 5.000 Dalton.

[0027] While the larger peptides are concentrated in the retentate, the smaller molecules which are desired according to the present invention are found in the permeate. The permeate can be used as such are subjected to a drying process, for example spray-drying or lyophilization to obtain a dry yellowish powder, which can be easily re-dissolved in water.

COSMETIC COMPOSITIONS

[0028] Another object of the present invention is drawn to a cosmetic composition, preferably a skin care or a hair care composition, comprising the lupine peptide fraction as described infra in a working amount, for example about 0.1 to about 10 % b.w., preferably about 0.5 to about 8 % b.w. and particularly from about 1 to about 5 % b.w. – calculated on the composition(s). The skin care or hair care composition may represent for example a cosmetic cream, lotion, spray, emulsion, ointment, gel or mouse and the like. Typical examples are hair shampoos, hair conditioners and corresponding “2-in-1” products.

[0029] The preparations according to the invention may contain antidandruff agents, irritation-preventing agents, irritation-inhibiting agents, antioxidants, adstringents, perspiration-inhibiting agents, antiseptic agents, ant-statics, binders, buffers, carrier materials, chelating agents, cell stimulants, cleansing agents, care agents, deodorizing agents, antiperspirants,

softeners, emulsifiers, enzymes, essential oils, fibres, film-forming agents, fixatives, foam-forming agents, foam stabilizers, substances for preventing foaming, foam boosters, gelling agents, gel-forming agents, hair care agents, hair-setting agents, hair-straightening agents, moisture-donating agents, moisturizing substances, moisture-retaining substances, bleaching agents, strengthening agents, stain-removing agents, optically brightening agents, impregnating agents, dirt-repellent agents, friction-reducing agents, lubricants, moisturizing creams, ointments, opacifying agents, plasticizing agents, covering agents, polish, gloss agents, polymers, powders, proteins, re-oiling agents, abrading agents, silicones, hair promotion agents, cooling agents, skin-cooling agents, warming agents, skin-warming agents, stabilizers, UV-absorbing agents, UV filters, detergents, thickeners, vitamins, oils, waxes, fats, phospholipids, saturated fatty acids, mono- or polyunsaturated fatty acids, α-hydroxy acids, polyhydroxyfatty acids, liquefiers, dyestuffs, color-protecting agents, pigments, odoriferous substances, polyols, surfactants, electrolytes, organic solvents or silicone derivatives and the like as additional auxiliaries and additives.

[0030] In a preferred embodiment the compositions according to the present invention comprise:

(a) about 0.1 to about 5 wt.-%, preferably about 0.5 to about 3 wt.-%, and more preferably bout 1 to about 2 wt.-% plant peptides according to Claim 1;

(b) about 0.5 to about 15 wt.-%, preferably about 1 to about 10 wt.-% and more preferably about 2 to about 5 wt.-% emulsifiers;

(c) about 2 to about 60 wt.-%, preferably about 5 to about 50 wt.-% and more preferably about 10 to about 25 wt.-% oil components;

(d) about 0.1 to about 20 wt.-%, preferably about 1 to about 15 wt.-% and more preferably about 5 to about 10 wt.-% further additives,

on condition that all amounts – optionally together with water – add to 100 wt.-%

[0031] Preferably the compositions are substantially free of paraben preservatives, which mean that the content of parabens is either zero or less than 100 ppm.

SURFACTANTS

[0032] Preferred auxiliaries and additives are anionic and/or amphoteric or zwitterionic surfactants. Non-ionic and cationic surfactants can be also present in the composition. Suitable examples are mentioned along with the paragraph dealing with emulsifiers.

[0033] Typical examples for anionic and zwitterionic surfactants encompass: Almondamidopropylamine Oxide, Almondamidopropyl Betaine, Aminopropyl Laurylglutamine, Ammonium C12-15 Alkyl Sulfate, Ammonium C12-16 Alkyl Sulfate, Ammonium Capryleth Sulfate, Ammonium Cocomonoglyceride Sulfate, Ammonium Coco-Sulfate, Ammonium Cocoyl Isethionate, Ammonium Cocoyl Sarcosinate, Ammonium C12-15 Pareth Sulfate, Ammonium

C9-10 Perfluoroalkylsulfonate, Ammonium Dinonyl Sulfosuccinate, Ammonium Dodecylbenzenesulfonate, Ammonium Isostearate, Ammonium Laureth-6 Carboxylate, Ammonium Laureth-8 Carboxylate, Ammonium Laureth Sulfate, Ammonium Laureth-5 Sulfate, Ammonium Laureth-7 Sulfate, Ammonium Laureth-9 Sulfate, Ammonium Laureth-12 Sulfate, Ammonium Lauroyl Sarcosinate, Ammonium Lauryl Sulfate, Ammonium Lauryl Sulfosuccinate, Ammonium Myreth Sulfate, Ammonium Myristyl Sulfate, Ammonium Nonoxynol-4 Sulfate, Ammonium Nonoxynol-30 Sulfate, Ammonium Oleate, Ammonium Palm Kernel Sulfate, Ammonium Stearate, Ammonium Tallate, AMPD-Isostearoyl Hydrolyzed Collagen, AMPD-Rosin Hydrolyzed Collagen, AMP-Isostearoyl Hydrolyzed Collagen, AMP-Isostearoyl Hydrolyzed Keratin, AMP-Isostearoyl Hydrolyzed Soy Protein, AMP-Isostearoyl Hydrolyzed Wheat Protein, Apricotamidopropyl Betaine, Arachidic Acid, Arginine Hexyldecyl Phosphate, Avocadamidopropyl Betaine, Avocado Oil Glycereth-8 Esters, Babassu Acid, Babassuamidopropylamine Oxide, Babassuamidopropyl Betaine, Beeswax Acid, Behenamidopropyl Betaine, Behenamine Oxide, Beheneth-25, Beheneth-30, Behenic Acid, Behenyl Betaine, Bis- Butyldimethicone Polyglyceryl-3, Butoxynol-5 Carboxylic Acid, Butoxynol-19 Carboxylic Acid, Butyldimoniumhydroxypropyl Butylglucosides Chloride, Butyldimoniumhydroxypropyl Laurylglucosides Chloride, Butyl Glucoside, Butylglucoside Caprate, Butylglucosides Hydroxypropyltrimonium Chloride, Butyloctanoic Acid, C18-36 Acid, C20-40 Acid, C30-50 Acid, C16-22 Acid Amide MEA, Calcium Dodecylbenzenesulfonate, Calcium Lauroyl Taurate, C9-16 Alkane/Cycloalkane, C10-14 Alkyl Benzenesulfonic Acid, C12-14 Alkyl Diaminoethylglycine HCL, C9-15 Alkyl Phosphate, Candida Bombicola/Glucose/Methyl Rapeseedate Ferment, Canolamidopropyl Betaine, Capric Acid, Caproic Acid, Caproyl Ethyl Glucoside, Capryl/Capramidopropyl Betaine, Capryleth-4 Carboxylic Acid, Capryleth-6 Carboxylic Acid, Capryleth-9 Carboxylic Acid, Caprylic Acid, Capryloyl Collagen Amino Acids, Capryloyl Glycine, Capryloyl Hydrolyzed Collagen, Capryloyl Hydrolyzed Keratin, Capryloyl Keratin Amino Acids, Capryloyl Silk Amino Acids, Caprylyl/Capryl Glucoside, Caprylyl/Capryl Wheat Bran/Straw Glycosides, Caprylyl Glucoside, Caprylyl Glyceryl Ether, Caprylyl Pyrrolidone, Carnitine, Ceteareth-20, Ceteareth-23, Ceteareth-24, Ceteareth-25, Ceteareth-27, Ceteareth-28, Ceteareth-29, Ceteareth-30, Ceteareth-33, Ceteareth-34, Ceteareth-40, Ceteareth-50, Ceteareth-55, Ceteareth-60, Ceteareth-80, Ceteareth-100, Ceteareth-25 Carboxylic Acid, Ceteareth-2 Phosphate, Ceteareth-4 Phosphate, Ceteareth-5 Phosphate, Ceteareth-10 Phosphate, Ceteth-20, Ceteth-23, Ceteth-24, Ceteth-25, Ceteth-30, Ceteth-40, Ceteth-45, Ceteth-150, Ceteth-8 Phosphate, Ceteth-10 Phosphate, Ceteth-20 Phosphate, Cetoleth-22, Cetoleth-24, Cetoleth-25, Cetoleth-30, Cetyl Betaine, Chrysanthemum Sinense Flower Extract, C12-14 Hydroxyalkyl Hydroxyethyl Beta-Alanine, C12-14 Hydroxyalkyl Hydroxyethyl Sarcosine, Cocamidoethyl Betaine, Cocamidopropylamine Oxide, Cocamidopropyl Betainamide MEA Chloride, Cocamidopropyl Betaine, Cocamidopropyl Hydroxysultaine, Cocamine Oxide, Cocaminobutyric Acid, Cocaminopropionic Acid, Coceth-7 Carboxylic Acid, Coceth-4 Glucoside, Cocoamphodipropionic Acid, Cocobetainamido Amphopropionate, Coco-Betaine, Cocodimonium Hydroxypropyl Hydrolyzed Rice Protein, Cocodimonium Hydroxypropyl Hydrolyzed Soy Protein, Cocodimonium Hydroxypropyl Hydrolyzed Wheat Protein,

Coco-Glucoside, Cocoglucosides Hydroxypropyltrimonium Chloride, Coco- Hydroxysultaine, Coco-Morpholine Oxide, Coconut Acid, Coconut Oil Glycereth-8 Esters, Coco/Oleamidopropyl Betaine, Coco-Sultaine, Coco/Sunfloweramidopropyl Betaine, Cocoylcholine Methosulfate, Cocoyl Glutamic Acid, Cocoyl Hydrolyzed Collagen, Cocoyl Hydrolyzed Keratin, Cocoyl Hydrolyzed Oat Protein, Cocoyl Hydrolyzed Rice Protein, Cocoyl Hydrolyzed Silk, Cocoyl Hydrolyzed Soy Protein, Cocoyl Hydrolyzed Wheat Protein, Cocoyl Sarcosine, Corn Acid, Cottonseed Acid, Cottonseed Oil Glycereth-8 Esters, C10-16 Pareth-1, C10-16 Pareth-2, C11-13 Pareth-6, C11-13 Pareth-9, C11-13 Pareth-10, C11-15 Pareth-30, C11-15 Pareth-40, C12-13 Pareth-1, C12-13 Pareth- 23, C12-14 Pareth-5, C12-14 Pareth-9, C13-15 Pareth-21, C14-15 Pareth-8, C20-22 Pareth-30, C20- 40 Pareth-40, C20-40 Pareth-95, C22-24 Pareth-33, C30-50 Pareth-40, C9-11 Pareth-6 Carboxylic Acid, C9-11 Pareth-8 Carboxylic Acid, C11-15 Pareth-7 Carboxylic Acid, C12-13 Pareth-5 Carboxylic Acid, C12-13 Pareth-7 Carboxylic Acid, C12-13 Pareth-8 Carboxylic Acid, C12-13 Pareth-12 Carboxylic Acid, C12-15 Pareth-7 Carboxylic Acid, C12-15 Pareth-8 Carboxylic Acid, C12-15 Pareth- 12 Carboxylic Acid, C14-15 Pareth-8 Carboxylic Acid, C6-10 Pareth-4 Phosphate, C12-13 Pareth-2 Phosphate, C12-13 Pareth-10 Phosphate, C12-15 Pareth-6 Phosphate, C12-15 Pareth-8 Phosphate, C12-15 Pareth-10 Phosphate, C12-16 Pareth-6 Phosphate, C4-18 Perfluoroalkylethyl Thiohydroxypropyltrimonium Chloride, Cupuassuamidopropyl Betaine, DEA-C12-13 Alkyl Sulfate, DEA-C12-15 Alkyl Sulfate, DEA-Ceteareth-2 Phosphate, DEA-Cetyl Sulfate, DEA- Cocoamphodipropionate, DEA-C12-13 Pareth-3 Sulfate, DEA-Cyclocarboxypropyloleate, DEA- Dodecylbenzenesulfonate, DEA-Isostearate, DEA-Laureth Sulfate, DEA-Lauryl Sulfate, DEA- Linoleate, DEA-Methyl Myristate Sulfonate, DEA-Myreth Sulfate, DEA-Myristate, DEA-Myristyl Sulfate, DEA-Oleth-5 Phosphate, DEA-Oleth-20 Phosphate, DEA PG-Oleate, Deceth-7 Carboxylic Acid, Deceth-7 Glucoside, Deceth-9 Phosphate, Decylamine Oxide, Decyl Betaine, Decyl Glucoside, Decyltetradeceth-30, Decyltetradecylamine Oxide, Diammonium Lauramido-MEA Sulfosuccinate, Diammonium Lauryl Sulfosuccinate, Diammonium Oleamido PEG-2 Sulfosuccinate, Dibutoxymethane, Di-Cl 2-15 Pareth-2 Phosphate, Di-Cl 2-15 Pareth-4 Phosphate, Di-Cl 2-15 Pareth-6 Phosphate, Di- C12-15 Pareth-8 Phosphate, Di-Cl 2-15 Pareth-10 Phosphate, Didodecyl Butanetetracarboxylate, Diethylamine Laureth Sulfate, Diethylhexyl Sodium Sulfosuccinate, Dihydroxyethyl C8-10 Alkoxypropylamine Oxide, Dihydroxyethyl C9-11 Alkoxypropylamine Oxide, Dihydroxyethyl C12-15 Alkoxypropylamine Oxide, Dihydroxyethyl Cocamine Oxide, Dihydroxyethyl Lauramine Oxide, Dihydroxyethyl Stearamine Oxide, Dihydroxyethyl Tallowamine Oxide, Dimethicone PEG-7 Phosphate, Dimethicone PEG-10 Phosphate, Dimethicone PEG/PPG-7/4 Phosphate, Dimethicone PEG/PPG-12/4 Phosphate, Dimethicone/Polyglycerin-3 Crosspolymer, Dimethicone Propyl PG- Betaine, Dimyristyl Phosphate, Dioleoylamidoethyl Hydroxyethylmonium Methosulfate, DIPA- Hydrogenated Cocoate, DIPA-Lanolate, DIPA-Myristate, Dipotassium Capryloyl Glutamate, Dipotassium Lauryl Sulfosuccinate, Dipotassium Undecylenoyl Glutamate, Disodium Babassuamido MEA-Sulfosuccinate, Disodium Caproamphodiacetate, Disodium Caproamphodipropionate, Disodium Capryloamphodiacetate, Disodium Capryloamphodipropionate, Disodium Capryloyl Glutamate, Disodium Cetearyl Sulfosuccinate, Disodium Cetyl Phenyl Ether Disulfonate,

Disodium Cetyl Sulfosuccinate, Disodium Cocamido MEA-Sulfosuccinate, Disodium Cocamido MIPA PEG-4 Sulfosuccinate, Disodium Cocamido MIPA-Sulfosuccinate, Disodium Cocamido PEG-3 Sulfosuccinate, Disodium Coceth-3 Sulfosuccinate, Disodium Cocoamphocarboxyethylhydroxypropylsulfonate, Disodium Cocoamphodiacetate, Disodium Cocoamphodipropionate, Disodium Coco-Glucoside Sulfosuccinate, Disodium Coco-Sulfosuccinate, Disodium Cocoyl Butyl Gluceth-10 Sulfosuccinate, Disodium Cocoyl Glutamate, Disodium C12-14 Pareth-1 Sulfosuccinate, Disodium C12-14 Pareth-2 Sulfosuccinate, Disodium C12-15 Pareth Sulfosuccinate, Disodium C12-14 Sec-Pareth-3 Sulfosuccinate, Disodium C12-14 Sec-Pareth-5 Sulfosuccinate, Disodium C12-14 Sec-Pareth-7 Sulfosuccinate, Disodium C12-14 Sec-Pareth-9 Sulfosuccinate, Disodium C12-14 Sec-Pareth-12 Sulfosuccinate, Disodium Deceth-5 Sulfosuccinate, Disodium Deceth-6 Sulfosuccinate, Disodium Decyl Phenyl Ether Disulfonate, Disodium Dihydroxyethyl Sulfosuccinylundecylenate, Disodium Ethylene Dicocamide PEG-15 Disulfate, Disodium Hydrogenated Cottonseed Glyceride Sulfosuccinate, Disodium Hydrogenated Tallow Glutamate, Disodium Hydroxydecyl Sorbitol Citrate, Disodium Isodecyl Sulfosuccinate, Disodium Isostearamido MEA-Sulfosuccinate, Disodium Isostearamido MIPA-Sulfosuccinate, Disodium Isostearoamphodiacetate, Disodium Isostearoamphodipropionate, Disodium Isostearyl Sulfosuccinate, Disodium Laneth-5 Sulfosuccinate, Disodium Lauramido MEA-Sulfosuccinate, Disodium Lauramido MIPA Glycol Sulfosuccinate, Disodium Lauramido PEG-2 Sulfosuccinate, Disodium Lauramido PEG-5 Sulfosuccinate, Disodium Laureth-5 Carboxyamphodiacetate, Disodium Laureth-7 Citrate, Disodium Laureth Sulfosuccinate, Disodium Laureth-6 Sulfosuccinate, Disodium Laureth-9 Sulfosuccinate, Disodium Laureth-12 Sulfosuccinate, Disodium Lauriminobishydroxypropylsulfonate, Disodium Lauriminodiacetate, Disodium Lauriminodipropionate, Disodium Lauriminodipropionate Tocopheryl Phosphates, Disodium Lauroamphodiacetate, Disodium Lauroamphodipropionate, Disodium N- Lauroyl Aspartate, Disodium Lauroyl Glutamate, Disodium Lauryl Phenyl Ether Disulfonate, Disodium Lauryl Sulfosuccinate, Disodium Myristamido MEA-Sulfosuccinate, Disodium Nonoxynol-10 Sulfosuccinate, Disodium Oleamido MEA-Sulfosuccinate, Disodium Oleamido MIPA-Sulfosuccinate, Disodium Oleamido PEG-2 Sulfosuccinate, Disodium Oleoamphodipropionate, Disodium Oleth-3 Sulfosuccinate, Disodium Oleyl Phosphate, Disodium Oleyl Sulfosuccinate, Disodium Palmitamido PEG-2 Sulfosuccinate, Disodium Palmitoleamido PEG-2 Sulfosuccinate, Disodium PEG-4 Cocamido MIPA-Sulfosuccinate, Disodium PEG-12 Dimethicone Sulfosuccinate, Disodium PEG-8 Palm Glycerides Sulfosuccinate, Disodium PPG-2-Isodeceth-7 Carboxyamphodiacetate, Disodium Ricinoleamido MEA-Sulfosuccinate, Disodium Sitosteryeth-14 Sulfosuccinate, Disodium Soyamphodiacetate, Disodium Stearamido MEA-Sulfosuccinate, Disodium Steariminodipropionate, Disodium Stearoamphodiacetate, Disodium Stearoyl Glutamate, Disodium Stearyl Sulfosuccinamate, Disodium Stearyl Sulfosuccinate, Disodium 2-Sulfolaurate, Disodium 2-Sulfopalmitate, Disodium Tallamido MEA-Sulfosuccinate, Disodium Tallowamido MEA-Sulfosuccinate, Disodium Tallowamphodiacetate, Disodium Tallowiminodipropionate, Disodium Tallow Sulfosuccinamate, Disodium Tridecylsulfosuccinate, Disodium Undecylenamido MEA-Sulfosuccinate, Disodium Undecylenamido PEG-2 Sulfosuccinate, Disodium Undecylenoyl Glutamate, Disodium Wheat Ger-

mamido MEA-Sulfosuccinate, Disodium Wheat Germamido PEG-2 Sulfosuccinate, Disodium Wheatgermamphodiacetate, Di-TEA-Cocamide Diacetate, Di-TEA-Oleamido PEG-2 Sulfosuccinate, Di-TEA-Palmitoyl Aspartate, Ditridecyl Sodium Sulfosuccinate, Dodecylbenzene Sulfonic Acid, Erucamidopropyl Hydroxysultaine, Ethylhexeth-3 Carboxylic Acid, Ethyl PEG-15 Cocamine Sulfate, Glyceryl Capryl Ether, Hexyldecanoic Acid, Hydrogenated Coconut Acid, Hydrogenated Laneth-25, Hydrogenated Menhaden Acid, Hydrogenated Palm Acid, Hydrogenated Palm Kernel Amine Oxide, Hydrogenated Tallow Acid, Hydrogenated Tallowamine Oxide, Hydrogenated Tallow Betaine, Hydrogenated Talloweth-25, Hydrogenated Tallowoyl Glutamic Acid, Hydrolyzed Candida Bombicola Extract, Hydroxyceteth-60, Hydroxyethyl Acetomonium PG-Dimethicone, Hydroxyethylbutylamine Laureth Sulfate, Hydroxyethyl Carboxymethyl Cocamidopropylamine, Hydroxyethyl Hydroxypropyl C12-15 Alkoxypropylamine Oxide, Hydroxylauryl/Hydroxymyristyl Betaine, Hydroxystearic Acid, Hydroxysuccinimidyl C10-40 Isoalkyl Acidate, Hydroxysuccinimidyl C21-22 Isoalkyl Acidate, Hydroxysultaines, IPDI/PEG-15 Soyamine Oxide Copolymer, IPDI/PEG-15 Soyethonium Ethosulfate Copolymer, IPDI/PEG-15 Soy Glycinate Copolymer, Isoceteth-30, Isolaureth-4 Phosphate, Isopolyglyceryl-3 Dimethicone, Isopolyglyceryl-3 Dimethiconol, Isopropanolamine Lanolate, Isopropylamine Dodecylbenzenesulfonate, Isostearamidopropylamine Oxide, Isostearamidopropyl Betaine, Isostearamidopropyl Morpholine Oxide, Isosteareth-8, Isosteareth-16, Isosteareth-22, Isosteareth-25, Isosteareth-50, Isostearic Acid, Isostearoyl Hydrolyzed Collagen, Jojoba Oil PEG-150 Esters, Jojoba Wax PEG-80 Esters, Jojoba Wax PEG-120 Esters, Laneth-20, Laneth-25, Laneth-40, Laneth-50, Laneth-60, Laneth-75, Lanolin Acid, Lauramidopropylamine Oxide, Lauramidopropyl Betaine, Lauramidopropyl Hydroxysultaine, Lauramine Oxide, Lauraminopropionic Acid, Laurdimoniumhydroxypropyl Decylglucosides Chloride, Laurdimoniumhydroxypropyl Laurylglucosides Chloride, Laureth-16, Laureth-20, Laureth-21, Laureth-23, Laureth-25, Laureth-30, Laureth-38, Laureth-40, Laureth-3 Carboxylic Acid, Laureth-4 Carboxylic Acid, Laureth-5 Carboxylic Acid, Laureth- 6 Carboxylic Acid, Laureth-8 Carboxylic Acid, Laureth-10 Carboxylic Acid, Laureth-11 Carboxylic Acid, Laureth-12 Carboxylic Acid, Laureth-13 Carboxylic Acid, Laureth-14 Carboxylic Acid, Laureth-17 Carboxylic Acid, Laureth-6 Citrate, Laureth-7 Citrate, Laureth-1 Phosphate, Laureth-2 Phosphate, Laureth-3 Phosphate, Laureth-4 Phosphate, Laureth-7 Phosphate, Laureth-8 Phosphate, Laureth-7 Tartrate, Laurie Acid, Laurimino Bispropanediol, Lauriminodipropionic Acid, Lauroamphodipropionic Acid, Lauroyl Beta-Alanine, Lauroyl Collagen Amino Acids, Lauroyl Ethyltrimonium Methosulfate, Lauroyl Hydrolyzed Collagen, Lauroyl Hydrolyzed Elastin, Lauroyl Methyl Glucamide, Lauroyl Sarcosine, Lauroyl Silk Amino Acids, Lauryl Betaine, Lauryl Dimethicone/Polyglycerin-3 Crosspolymer, Lauryldimoniumhydroxypropyl Cocoglucosides Chloride, Lauryl Glucoside, Laurylglucosides Hydroxypropyltrimonium Chloride, Lauryl Glycol Hydroxypropyl Ether, Lauryl Hydroxysultaine, Lauryl Malamide, Lauryl Methylglucamide, Lauryl/Myristyl Glycol Hydroxypropyl Ether, Lauryl/Myristyl Wheat Bran/Straw Glycosides, Lauryl Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone, Lauryl Pyrrolidone, Lauryl Sultaine, Linoleic Acid, Linolenic Acid, Linseed Acid, Lysine Cocoate, Macadamia Seed Oil Glycereth-8 Esters, Magnesium Coceth Sulfate, Magnesium Coco-Sulfate, Magnesium Isododecylbenzenesulfonate, Magne-

sium Laureth-11 Carboxylate, Magnesium Laureth Sulfate, Magnesium Laureth-5 Sulfate, Magnesium Laureth-8 Sulfate, Magnesium Laureth-16 Sulfate, Magnesium Laureth-3 Sulfosuccinate, Magnesium Lauryl Hydroxypropyl Sulfonate, Magnesium Lauryl Sulfate, Magnesium Methyl Cocoyl Taurate, Magnesium Myreth Sulfate, Magnesium Oleth Sulfate, Magnesium/TEA-Coco-Sulfate, Manicouagan Clay, MEA-Cocoate, MEA-Laureth-6 Carboxylate, MEA- Laureth Sulfate, MEA-Lauryl Sulfate, MEA PPG-6 Laureth-7 Carboxylate, MEA-PPG-8-Steareth-7 Carboxylate, MEA-Undecylenate, Meroxapol 108, Meroxapol 174, Meroxapol 178, Meroxapol 254, Meroxapol 255, Meroxapol 258, Meroxapol 314, Methoxy PEG-450 Amidoglutaroyl Succinimide, Methoxy PEG-450 Amido Hydroxysuccinimidyl Succinamate, Methoxy PEG-450 Maleimide, Methyl Morpholine Oxide, Milkamidopropyl Amine Oxide, Milkamidopropyl Betaine, Minkamidopropylamine Oxide, Minkamidopropyl Betaine, MIPA C12-15 Pareth Sulfate, MIPA-Dodecylbenzenesulfonate, MIPA-Laureth Sulfate, MIPA-Lauryl Sulfate, Mixed Isopropanolamines Lanolate, Mixed Isopropanolamines Lauryl Sulfate, Mixed Isopropanolamines Myristate, Morpholine Oleate, Morpholine Stearate, Myreth-3 Carboxylic Acid, Myreth-5 Carboxylic Acid, Myristalkonium Chloride, Myristamidopropylamine Oxide, Myristamidopropyl Betaine, Myristamidopropyl Dimethylamine Phosphate, Myristamidopropyl Hydroxysultaine, Myristamidopropyl PG-Dimonium Chloride Phosphate, Myristamine Oxide, Myristaminopropionic Acid, Myristic Acid, Myristoyl Ethyltrimonium Methosulfate, Myristoyl Glutamic Acid, Myristoyl Hydrolyzed Collagen, Myristoyl Sarcosine, Myristyl Betaine, Myristyl/Cetyl Amine Oxide, Myristyldimoniumhydroxypropyl Cocoglucosides Chloride, Myristyl Glucoside, Myristyl Phosphate, Nonoxynol-20, Nonoxynol-23, Nonoxynol-25, Nonoxynol-30, Nonoxynol-35, Nonoxynol-40, Nonoxynol-44, Nonoxynol-50, Nonoxynol-100, Nonoxynol-120, Nonoxynol-5 Carboxylic Acid, Nonoxynol-8 Carboxylic Acid, Nonoxynol-10 Carboxylic Acid, Nonoxynol-3 Phosphate, Nonoxynol-4 Phosphate, Nonoxynol-6 Phosphate, Nonoxynol-9 Phosphate, Nonoxynol-10 Phosphate, Nonyl Nonoxynol-30, Nonyl Nonoxynol-49, Nonyl Nonoxynol-100, Nonyl Nonoxynol-150, Nonyl Nonoxynol-7 Phosphate, Nonyl Nonoxynol-8 Phosphate, Nonyl Nonoxynol-9 Phosphate, Nonyl Nonoxynol-10 Phosphate, Nonyl Nonoxynol-11 Phosphate, Nonyl Nonoxynol-15 Phosphate, Nonyl Nonoxynol-24 Phosphate, Oatamidopropyl Betaine, Octoxynol-16, Octoxynol-25, Octoxynol-30, Octoxynol-33, Octoxynol-40, Octoxynol-70, Octoxynol-20 Carboxylic Acid, Octyldodeceth-20, Octyldodeceth-25, Octyldodeceth-30, Oleamidopropylamine Oxide, Oleamidopropyl Betaine, Oleamidopropyl Hydroxysultaine, Oleamine Oxide, Oleic Acid, Oleoyl Hydrolyzed Collagen, Oleoyl Sarcosine, Oleth-20, Oleth-23, Oleth-24, Oleth-25, Oleth-30, Oleth-35, Oleth-40, Oleth-44, Oleth-50, Oleth-3 Carboxylic Acid, Oleth-6 Carboxylic Acid, Oleth-10 Carboxylic Acid, Oleyl Betaine, Olivamidopropylamine Oxide, Olivamidopropyl Betaine, Olive Acid, Olivoyl Hydrolyzed Wheat Protein, Ophiopogon Extract Stearate, Ozonized Oleth-10, Ozonized PEG-10 Oleate, Ozonized PEG-14 Oleate, Ozonized Polysorbate 80, Palm Acid, Palmamidopropyl Betaine, Palmeth-2 Phosphate, Palmitamidopropylamine Oxide, Palmitamidopropyl Betaine, Palmitamine Oxide, Palmitic Acid, Palmitoyl Collagen Amino Acids, Palmitoyl Glycine, Palmitoyl Hydrolyzed Collagen, Palmitoyl Hydrolyzed Milk Protein, Palmitoyl Hydrolyzed Wheat Protein, Palmitoyl Keratin Amino Acids, Palmitoyl Oligopeptide, Palmitoyl

Silk Amino Acids, Palm Kernel Acid, Palm Kernelamidopropyl Betaine, Peach Kernel Oil Glycereth-8 Esters, Peanut Acid, PEG-10 Castor Oil, PEG-40 Castor Oil, PEG-44 Castor Oil, PEG-50 Castor Oil, PEG-54 Castor Oil, PEG-55 Castor Oil, PEG-60 Castor Oil, PEG-80 Castor Oil, PEG-100 Castor Oil, PEG-200 Castor Oil, PEG-11 Cocamide, PEG-6 Cocamide Phosphate, PEG-4 Cocamine, PEG-8 Cocamine, PEG-12 Cocamine, PEG-150 Dibehenate, PEG-90 Diisostearate, PEG-75 Dilaurate, PEG-150 Dilaurate, PEG-75 Dioleate, PEG-150 Dioleate, PEG-75 Distearate, PEG-120 Distearate, PEG-150 Distearate, PEG-175 Distearate, PEG-190 Distearate, PEG-250 Distearate, PEG-30 Glyceryl Cocoate, PEG-40 Glyceryl Cocoate, PEG-78 Glyceryl Cocoate, PEG-80 Glyceryl Cocoate, PEG-30 Glyceryl Isostearate, PEG-40 Glyceryl Isostearate, PEG-50 Glyceryl Isostearate, PEG-60 Glyceryl Isostearate, PEG-90 Glyceryl Isostearate, PEG-23 Glyceryl Laurate, PEG-30 Glyceryl Laurate, PEG-25 Glyceryl Oleate, PEG-30 Glyceryl Oleate, PEG-30 Glyceryl Soyate, PEG-25 Glyceryl Stearate, PEG-30 Glyceryl Stearate, PEG-40 Glyceryl Stearate, PEG-120 Glyceryl Stearate, PEG-200 Glyceryl Stearate, PEG-28 Glyceryl Tallowate, PEG-80 Glyceryl Tallowate, PEG-82 Glyceryl Tallowate, PEG-130 Glyceryl Tallowate, PEG-200 Glyceryl Tallowate, PEG-45 Hydrogenated Castor Oil, PEG-50 Hydrogenated Castor Oil, PEG-54 Hydrogenated Castor Oil, PEG-55 Hydrogenated Castor Oil, PEG-60 Hydrogenated Castor Oil, PEG-80 Hydrogenated Castor Oil, PEG-100 Hydrogenated Castor Oil, PEG-200 Hydrogenated Castor Oil, PEG-30 Hydrogenated Lanolin, PEG-70 Hydrogenated Lanolin, PEG-50 Hydrogenated Palmamide, PEG-2 Isostearate, PEG-3 Isostearate, PEG-4 Isostearate, PEG-6 Isostearate, PEG-8 Isostearate, PEG-10 Isostearate, PEG-12 Isostearate, PEG-20 Isostearate, PEG-30 Isostearate, PEG-40 Isostearate, PEG- 26 Jojoba Acid, PEG-40 Jojoba Acid, PEG-15 Jojoba Alcohol, PEG-26 Jojoba Alcohol, PEG-40 Jojoba Alcohol, PEG-35 Lanolin, PEG-40 Lanolin, PEG-50 Lanolin, PEG-55 Lanolin, PEG-60 Lanolin, PEG- 70 Lanolin, PEG-75 Lanolin, PEG-85 Lanolin, PEG-100 Lanolin, PEG-150 Lanolin, PEG-75 Lanolin Oil, PEG-2 Lauramide, PEG-3 Lauramine Oxide, PEG-20 Laurate, PEG-32 Laurate, PEG-75 Laurate, PEG-150 Laurate, PEG-70 Mango Glycerides, PEG-20 Mannitan Laurate, PEG-8 Methyl Ether Dimethicone, PEG-120 Methyl Glucose Dioleate, PEG-80 Methyl Glucose Laurate, PEG-120 Methyl Glucose Trioleate, PEG-4 Montanate, PEG-30 Oleamine, PEG-20 Oleate, PEG-23 Oleate, PEG-32 Oleate, PEG-36 Oleate, PEG-75 Oleate, PEG-150 Oleate, PEG-20 Palmitate, PEG-150 Polyglyceryl-2 Tristearate, PEG/PPG-28/21 Acetate Dimethicone, PEG/PPG-24/18 Butyl Ether Dimethicone, PEG/PPG-3/17 Copolymer, PEG/PPG-5/35 Copolymer, PEG/PPG-8/55 Copolymer, PEG/PPG-10/30 Copolymer, PEG/PPG-10/65 Copolymer, PEG/PPG-12/35 Copolymer, PEG/PPG-16/17 Copolymer, PEG/PPG-20/9 Copolymer, PEG/PPG-20/20 Copolymer, PEG/PPG-20/60 Copolymer, PEG/PPG- 20/65 Copolymer, PEG/PPG-22/25 Copolymer, PEG/PPG-28/30 Copolymer, PEG/PPG-30-35 Copolymer, PEG/PPG-30/55 Copolymer, PEG/PPG-35/40 Copolymer, PEG/PPG-50/40 Copolymer, PEG/PPG-150/35 Copolymer, PEG/PPG-160/30 Copolymer, PEG/PPG-190/60 Copolymer, PEG/PPG-200/40 Copolymer, PEG/PPG-300/55 Copolymer, PEG/PPG-20/22 Methyl Ether Dimethicone, PEG-26-PPG-30 Phosphate, PEG/PPG-4/2 Propylheptyl Ether, PEG/PPG-6/2 Propylheptyl Ether, PEG-7/PPG-2 Propylheptyl Ether, PEG/PPG-8/2 Propylheptyl Ether, PEG/PPG- 10/2 Propylheptyl Ether, PEG/PPG-14/2 Propylheptyl Ether, PEG/PPG-40/2 Propylheptyl Ether, PEG/PPG-10/2 Ricino-

leate, PEG/PPG-32/3 Ricinoleate, PEG-55 Propylene Glycol Oleate, PEG-25 Propylene Glycol Stearate, PEG-75 Propylene Glycol Stearate, PEG-120 Propylene Glycol Stearate, PEG-5 Rapeseed Sterol, PEG-10 Rapeseed Sterol, PEG-40 Ricinoleamide, PEG-75 Shea Butter Glycerides, PEG-75 Shorea Butter Glycerides, PEG-20 Sorbitan Cocoate, PEG-20 Sorbitan Isostearate, PEG-40 Sorbitan Lanolate, PEG-75 Sorbitan Lanolate, PEG-10 Sorbitan Laurate, PEG-40 Sorbitan Laurate, PEG-44 Sorbitan Laurate, PEG-75 Sorbitan Laurate, PEG-80 Sorbitan Laurate, PEG-20 Sorbitan Oleate, PEG-80 Sorbitan Palmitate, PEG-40 Sorbitan Stearate, PEG-60 Sorbitan Stearate, PEG-160 Sorbitan Triisostearate, PEG-40 Soy Sterol, PEG-2 Stearamide Carboxylic Acid, PEG-9 Stearamide Carboxylic Acid, PEG-20 Stearate, PEG-23 Stearate, PEG-25 Stearate, PEG-30 Stearate, PEG-32 Stearate, PEG-35 Stearate, PEG-36 Stearate, PEG-40 Stearate, PEG-45 Stearate, PEG-50 Stearate, PEG-55 Stearate, PEG-75 Stearate, PEG-90 Stearate, PEG-100 Stearate, PEG- 120 Stearate, PEG-150 Stearate, PEG-45 Stearate Phosphate, PEG-20 Tallate, PEG-50 Tallow Amide, PEG-2 Tallowamide DEA, PEG-20 Tallowate, PEG-66 Trihydroxystearin, PEG-200 Trihydroxystearin, PEG-60 Tsubakiate Glycerides, Pelargonic Acid, Pentadoxynol-200, Pheneth-6 Phosphate, Poloxamer 105, Poloxamer 108, Poloxamer 182, Poloxamer 183, Poloxamer 184, Poloxamer 188, Poloxamer 217, Poloxamer 234, Poloxamer 235, Poloxamer 237, Poloxamer 238, Poloxamer 288, Poloxamer 334, Poloxamer 335, Poloxamer 338, Poloxamine 908, Poloxamine 1508, Polydimethylsiloxy PEG/PPG-24/19 Butyl Ether Silsesquioxane, Polydimethylsiloxy PPG-13 Butyl Ether Silsesquioxane, Polyglyceryl-6 Caprate, Polyglyceryl-10 Dilaurate, Polyglyceryl-20 Heptacaprylate, Polyglyceryl-20 Hexacaprylate, Polyglyceryl-2 Lauryl Ether, Polyglyceryl-10 Lauryl Ether, Polyglyceryl-20 Octaisononanoate, Polyglyceryl-6 Pentacaprylate, Polyglyceryl-10 Pentacaprylate, Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone, Polyglyceryl-6 Tetracaprylate, Polyglyceryl-10 Tetralaurate, Polyglyceryl-6 Tricaprylate, Polyglyceryl-10 Trilaurate, Polyquaternium- 77, Polyquaternium-78, Polyquaternium-79, Polyquaternium-80, Polyquaternium-81, Polyquaternium-82, Pomaderris Kumerahou Flower/Leaf Extract, Poria Cocos Extract, Potassium Abietoyl Hydrolyzed Collagen, Potassium Babassuate, Potassium Behenate, Potassium C9-15 Alkyl Phosphate, Potassium C11-15 Alkyl Phosphate, Potassium C12-13 Alkyl Phosphate, Potassium C12-14 Alkyl Phosphate, Potassium Caprate, Potassium Capryloyl Glutamate, Potassium Capryloyl Hydrolyzed Rice Protein, Potassium Castorate, Potassium Cocoate, Potassium Cocoyl Glutamate, Potassium Cocoyl Glycinate, Potassium Cocoyl Hydrolyzed Casein, Potassium Cocoyl Hydrolyzed Collagen, Potassium Cocoyl Hydrolyzed Corn Protein, Potassium Cocoyl Hydrolyzed Keratin, Potassium Cocoyl Hydrolyzed Oat Protein, Potassium Cocoyl Hydrolyzed Potato Protein, Potassium Cocoyl Hydrolyzed Rice Bran Protein, Potassium Cocoyl Hydrolyzed Rice Protein, Potassium Cocoyl Hydrolyzed Silk, Potassium Cocoyl Hydrolyzed Soy Protein, Potassium Cocoyl Hydrolyzed Wheat Protein, Potassium Cocoyl Hydrolyzed Yeast Protein, Potassium Cocoyl PCA, Potassium Cocoyl Sarcosinate, Potassium Cocoyl Taurate, Potassium Cornate, Potassium Cyclocarboxypropyloleate, Potassium Dihydroxyethyl Cocamine Oxide Phosphate, Potassium Dimethicone PEG-7 Phosphate, Potassium Dodecylbenzenesulfonate, Potassium Hempseedate, Potassium Hydrogenated Cocoate, Potassium Hydrogenated Palmate, Potassium Hydrogenated Tallowate, Potassium Hydroxystearate, Po-

tassium Isostearate, Potassium Lanolate, Potassium Laurate, Potassium Laureth-3 Carboxylate, Potassium Laureth-4 Carboxylate, Potassium Laureth-5 Carboxylate, Potassium Laureth-6 Carboxylate, Potassium Laureth-10 Carboxylate, Potassium Laureth Phosphate, Potassium Lauroyl Collagen Amino Acids, Potassium Lauroyl Glutamate, Potassium Lauroyl Hydrolyzed Collagen, Potassium Lauroyl Hydrolyzed Pea Protein, Potassium Lauroyl Hydrolyzed Soy Protein, Potassium Lauroyl PCA, Potassium Lauroyl Pea Amino Acids, Potassium Lauroyl Sarcosinate, Potassium Lauroyl Silk Amino Acids, Potassium Lauroyl Wheat Amino Acids, Potassium Lauryl Phosphate, Potassium Lauryl Sulfate, Potassium Linoleate, Potassium Metaphosphate, Potassium Methyl Cocoyl Taurate, Potassium Myristate, Potassium Myristoyl Glutamate, Potassium Myristoyl Hydrolyzed Collagen, Potassium Octoxynol-12 Phosphate, Potassium Oleate, Potassium Oleoyl Hydrolyzed Collagen, Potassium Olivate, Potassium Olivoyl Hydrolyzed Oat Protein, Potassium Olivoyl Hydrolyzed Wheat Protein, Potassium Olivoyl/Lauroyl Wheat Amino Acids, Potassium Olivoyl PCA, Potassium Palmate, Potassium Palmitate, Potassium Palmitoyl Hydrolyzed Corn Protein, Potassium Palmitoyl Hydrolyzed Oat Protein, Potassium Palmitoyl Hydrolyzed Rice Protein, Potassium Palmitoyl Hydrolyzed Sweet Almond Protein, Potassium Palmitoyl Hydrolyzed Wheat Protein, Potassium Palm Kernelate, Potassium Peanutate, Potassium Rapeseedate, Potassium Ricinoleate, Potassium Safflowerate, Potassium Soyate, Potassium Stearate, Potassium Stearoyl Hydrolyzed Collagen, Potassium Tallate, Potassium Tallowate, Potassium Taurate, Potassium Taurine Laurate, Potassium Trideceth-3 Carboxylate, Potassium Trideceth-4 Carboxylate, Potassium Trideceth-7 Carboxylate, Potassium Trideceth-15 Carboxylate, Potassium Trideceth-19 Carboxylate, Potassium Trideceth-6 Phosphate, Potassium Trideceth-7 Phosphate, Potassium Tsubakiate, Potassium Undecylenate, Potassium Undecylenoyl Hydrolyzed Collagen, Potassium Undecylenoyl Hydrolyzed Rice Protein, PPG-30- Buteth-30, PPG-36-Buteth-36, PPG-38-Buteth-37, PPG-30-Capryleth-4 Phosphate, PPG-10 Cetyl Ether Phosphate, PPG-2 C9-11 Pareth-8, PPG-1-Deceth-5, PPG-3-Deceth-2 Carboxylic Acid, PPG-30 Ethylhexeth-4 Phosphate, PPG-20-Glycereth-30, PPG-2 Hydroxyethyl Coco/Isostearamide, PPG-2- Isodeceth-8, PPG-2-Isodeceth-10, PPG-2-Isodeceth-18, PPG-2-Isodeceth-25, PPG-4-Isodeceth-10, Propyltrimonium Hydrolyzed Collagen, Quaternium-24, Quaternium-52, Quaternium-87, Rapeseed Acid, Rice Bran Acid, Rice Oil Glycereth-8 Esters, Ricinoleamidopropyl Betaine, Ricinoleic Acid, Ricinoleth-40, Safflower Acid, Sapindus Oahuensis Fruit Extract, Saponaria Officinalis Root Powder, Saponins, Sekken-K, Sekken-Na/K, Sekken Soji, Sekken Soji-K, Sesame Oil Glycereth-8 Esters, Sesamidopropylamine Oxide, Sesamidopropyl Betaine, Shea Butteramidopropyl Betaine, Shea Butter Glycereth-8 Esters, Sodium Arachidate, Sodium Arganampohoacetate, Sodium Astrocaryum Murumuruate, Sodium Avocadoate, Sodium Babassuamphoacetate, Sodium Babassuate, Sodium Babassu Sulfate, Sodium Behenate, Sodium Bisglycol Ricinosulfosuccinate, Sodium Bis- Hydroxyethylglycinate Coco-Glucosides Crosspolymer, Sodium Bis-Hydroxyethylglycinate Lauryl- Glucosides Crosspolymer, Sodium Borageamidopropyl PG-Dimonium Chloride Phosphate, Sodium Butoxynol-12 Sulfate, Sodium Butylglucosides Hydroxypropyl Phosphate, Sodium C13-17 Alkane Sulfonate, Sodium C14-18 Alkane Sulfonate, Sodium C12-15 Alkoxypropyl Iminodipropionate, Sodium C10-16 Alkyl Sulfate, Sodium C11-

15 Alkyl Sulfate, Sodium C12-13 Alkyl Sulfate, Sodium C12-15 Alkyl Sulfate, Sodium C12-18 Alkyl Sulfate, Sodium C16-20 Alkyl Sulfate, Sodium C9-22 Alkyl Sec Sulfonate, Sodium C14-17 Alkyl Sec Sulfonate, Sodium Caprate, Sodium Caproamphoacetate, Sodium Caproamphohydroxypropylsulfonate, Sodium Caproamphopropionate, Sodium Caproyl Methyltaurate, Sodium Caprylate, Sodium Capryleth-2 Carboxylate, Sodium Capryleth-9 Carboxylate, Sodium Capryloamphoacetate, Sodium Capryloamphohydroxypropylsulfonate, Sodium Capryloamphopropionate, Sodium Capryloyl Glutamate, Sodium Capryloyl Hydrolyzed Wheat Protein, Sodium Caprylyl PG-Sulfonate, Sodium Caprylyl Sulfonate, Sodium Castorate, Sodium Ceteareth-13 Carboxylate, Sodium Cetearyl Sulfate, Sodium Ceteth-13 Carboxylate, Sodium Cetyl Sulfate, Sodium Cocamidopropyl PG-Dimonium Chloride Phosphate, Sodium Cocaminopropionate, Sodium Coceth Sulfate, Sodium Coceth-30 Sulfate, Sodium Cocoabutteramphoacetate, Sodium Cocoa Butterate, Sodium Cocoamphoacetate, Sodium Cocoamphohydroxypropylsulfonate, Sodium Cocoamphopropionate, Sodium Cocoate, Sodium Coco/Babassu/Andiroba Sulfate, Sodium Coco/Babassu Sulfate, Sodium Cocoglucosides Hydroxypropyl Phosphate, Sodium Cocoglucosides Hydroxypropylsulfonate, Sodium Coco-Glucoside Tartrate, Sodium Cocoglyceryl Ether Sulfonate, Sodium Coco/Hydrogenated Tallow Sulfate, Sodium Cocoiminodiacetate, Sodium Cocomonoglyceride Sulfate, Sodium Cocomonoglyceride Sulfonate, Sodium Coco PG-Dimonium Chloride Phosphate, Sodium Coco-Sulfate, Sodium Coco Sulfoacetate, Sodium Cocoyl Alaninate, Sodium Cocoyl Amino Acids, Sodium Cocoyl Collagen Amino Acids, Sodium Cocoyl Glutamate, Sodium Cocoyl Glutaminate, Sodium Cocoyl Glycinate, Sodium Cocoyl/Hydrogenated Tallow Glutamate, Sodium Cocoyl Hydrolyzed Collagen, Sodium Cocoyl Hydrolyzed Keratin, Sodium Cocoyl Hydrolyzed Rice Protein, Sodium Cocoyl Hydrolyzed Silk, Sodium Cocoyl Hydrolyzed Soy Protein, Sodium Cocoyl Hydrolyzed Sweet Almond Protein, Sodium Cocoyl Hydrolyzed Wheat Protein, Sodium Cocoyl Hydrolyzed Wheat Protein Glutamate, Sodium Cocoyl Isethionate, Sodium Cocoyl Methylaminopropionate, Sodium Cocoyl Oat Amino Acids, Sodium Cocoyl/Palmoyl/Sunfloweroyl Glutamate, Sodium Cocoyl Proline, Sodium Cocoyl Sarcosinate, Sodium Cocoyl Taurate, Sodium Cocoyl Threoninate, Sodium Cocoyl Wheat Amino Acids, Sodium C12-14 Olefin Sulfonate, Sodium C14-16 Olefin Sulfonate, Sodium C14- 18 Olefin Sulfonate, Sodium C16-18 Olefin Sulfonate, Sodium Cornamphopropionate, Sodium Cottonseedamphoacetate, Sodium C13-15 Pareth-8 Butyl Phosphate, Sodium C9-11 Pareth-6 Carboxylate, Sodium C11-15 Pareth-7 Carboxylate, Sodium C12-13 Pareth-5 Carboxylate, Sodium C12-13 Pareth-8 Carboxylate, Sodium C12-13 Pareth-12 Carboxylate, Sodium C12-15 Pareth-6 Carboxylate, Sodium C12-15 Pareth-7 Carboxylate, Sodium C12-15 Pareth-8 Carboxylate, Sodium C14-15 Pareth-8 Carboxylate, Sodium C12-14 Sec-Pareth-8 Carboxylate, Sodium C14-15 Pareth-PG Sulfonate, Sodium C12-13 Pareth-2 Phosphate, Sodium C13-15 Pareth-8 Phosphate, Sodium C9-15 Pareth-3 Sulfate, Sodium C10-15 Pareth Sulfate, Sodium C10-16 Pareth-2 Sulfate, Sodium C12-13 Pareth Sulfate, Sodium C12-15 Pareth Sulfate, Sodium C12-15 Pareth-3 Sulfate, Sodium C13-15 Pareth-3 Sulfate, Sodium C12-14 Sec-Pareth-3 Sulfate, Sodium C12-15 Pareth-3 Sulfonate, Sodium C12-15 Pareth-7 Sulfonate, Sodium C12-15 Pareth-15 Sulfonate, Sodium Deceth-2 Carboxylate, Sodium Deceth Sulfate, Sodium

Decylbenzenesulfonate, Sodium Decylglucosides Hydroxypropyl Phosphate, Sodium Decylglucosides Hydroxypropylsulfonate, Sodium Dilaureth-7 Citrate, Sodium Dilaureth-10 Phosphate, Sodium Dilinoleamidopropyl PG-Dimonium Chloride Phosphate, Sodium Dilinoleate, Sodium Dioleth-8 Phosphate, Sodium Dodecylbenzenesulfonate, Sodium Ethyl 2- Sulfolaurate, Sodium Glyceryl Oleate Phosphate, Sodium Grapeseedamidopropyl PG-Dimonium Chloride Phosphate, Sodium Grapeseedamphoacetate, Sodium Grapeseedate, Sodium Hempseedamphoacetate, Sodium Hexeth-4 Carboxylate, Sodium Hydrogenated Cocoate, Sodium Hydrogenated Cocoyl Methyl Isethionate, Sodium Hydrogenated Palmate, Sodium Hydrogenated Tallowate, Sodium Hydrogenated Tallowoyl Glutamate, Sodium Hydroxylauryldimonium Ethyl Phosphate, Sodium Hydroxypropyl Palm Kernelate Sulfonate, Sodium Hydroxypropylphosphate Decylglucoside Crosspolymer, Sodium Hydroxypropylphosphate Laurylglucoside Crosspolymer, Sodium Hydroxypropylsulfonate Cocoglucoside Crosspolymer, Sodium Hydroxypropylsulfonate Decylglucoside Crosspolymer, Sodium Hydroxypropylsulfonate Laurylglucoside Crosspolymer, Sodium Hydroxystearate, Sodium Isostearate, Sodium Isostearet-6 Carboxylate, Sodium Isostearet- 11 Carboxylate, Sodium Isostearoamphoacetate, Sodium Isostearoamphopropionate, Sodium N- Isostearoyl Methyltaurate, Sodium Laneth Sulfate, Sodium Lanolate, Sodium Lardate, Sodium Lauramido Diacetate, Sodium Lauraminopropionate, Sodium Laurate, Sodium Laureth-3 Carboxylate, Sodium Laureth-4 Carboxylate, Sodium Laureth-5 Carboxylate, Sodium Laureth-6 Carboxylate, Sodium Laureth-8 Carboxylate, Sodium Laureth-11 Carboxylate, Sodium Laureth-12 Carboxylate, Sodium Laureth-13 Carboxylate, Sodium Laureth-14 Carboxylate, Sodium Laureth-16 Carboxylate, Sodium Laureth-17 Carboxylate, Sodium Laureth Sulfate, Sodium Laureth-5 Sulfate, Sodium Laureth- 7 Sulfate, Sodium Laureth-8 Sulfate, Sodium Laureth-12 Sulfate, Sodium Laureth-40 Sulfate, Sodium Laureth-7 Tartrate, Sodium Lauriminodipropionate, Sodium Lauroamphoacetate, Sodium Lauroamphohydroxypropylsulfonate, Sodium Lauroampho PG-Acetate Phosphate, Sodium Lauroamphopropionate, Sodium Lauroyl Aspartate, Sodium Lauroyl Collagen Amino Acids, Sodium Lauroyl Glycine Propionate, Sodium Lauroyl Hydrolyzed Collagen, Sodium Lauroyl Hydrolyzed Silk, Sodium Lauroyl Hydroxypropyl Sulfonate, Sodium Lauroyl Isethionate, Sodium Lauroyl Methylaminopropionate, Sodium Lauroyl Methyl Isethionate, Sodium Lauroyl Millet Amino Acids, Sodium Lauroyl/Myristoyl Aspartate, Sodium Lauroyl Oat Amino Acids, Sodium Lauroyl Sarcosinate, Sodium Lauroyl Silk Amino Acids, Sodium Lauroyl Taurate, Sodium Lauroyl Wheat Amino Acids, Sodium Lauryl Diethylenediaminoglycinate, Sodium Lauryl Glucose Carboxylate, Sodium Laurylglucosides Hydroxypropyl Phosphate, Sodium Laurylglucosides Hydroxypropylsulfonate, Sodium Lauryl Glycol Carboxylate, Sodium Lauryl Hydroxyacetamide Sulfate, Sodium Lauryl Phosphate, Sodium Lauryl Sulfate, Sodium Lauryl Sulfoacetate, Sodium Linoleate, Sodium Macadamiaseedate, Sodium Mangoamphoacetate, Sodium Mangoseedate, Sodium/MEA Laureth-2 Sulfosuccinate, Sodium Methoxy PPG-2 Acetate, Sodium Methyl Cocoyl Taurate, Sodium Methyl Lauroyl Taurate, Sodium Methyl Myristoyl Taurate, Sodium Methyl Oleoyl Taurate, Sodium Methyl Palmitoyl Taurate, Sodium Methyl Stearoyl Taurate, Sodium Methyl 2-Sulfolaurate, Sodium Methyl 2- Sulfopalmitate, Sodium Methyltaurate Isopalmitamide, Sodium Methyltaurine

Cocoyl Methyltaurate, Sodium Myreth Sulfate, Sodium Myristate, Sodium Myristoamphoacetate, Sodium Myristoyl Glutamate, Sodium Myristoyl Hydrolyzed Collagen, Sodium Myristoyl Isethionate, Sodium Myristoyl Sarcosinate, Sodium Myristyl Sulfate, Sodium Nonoxynol-6 Phosphate, Sodium Nonoxynol-9 Phosphate, Sodium Nonoxynol-1 Sulfate, Sodium Nonoxynol-3 Sulfate, Sodium Nonoxynol-4 Sulfate, Sodium Nonoxynol-6 Sulfate, Sodium Nonoxynol-8 Sulfate, Sodium Nonoxynol-10 Sulfate, Sodium Nonoxynol-25 Sulfate, Sodium Octoxynol-2 Ethane Sulfonate, Sodium Octoxynol-2 Sulfate, Sodium Octoxynol-6 Sulfate, Sodium Octoxynol-9 Sulfate, Sodium Oleate, Sodium Oleoamphoacetate, Sodium Oleoamphohydroxypropylsulfonate, Sodium Oleoamphopropionate, Sodium Oleoyl Hydrolyzed Collagen, Sodium Oleoyl Isethionate, Sodium Oleth Sulfate, Sodium Oleyl Methyl Isethionate, Sodium Oleyl Sulfate, Sodium Olivamphoacetate, Sodium Olivate, Sodium Olivoyl Glutamate, Sodium Palmamphoacetate, Sodium Palmate, Sodium Palm Glyceride Sulfonate, Sodium Palmitate, Sodium Palmitoyl Hydrolyzed Collagen, Sodium Palmitoyl Hydrolyzed Wheat Protein, Sodium Palmitoyl Sarcosinate, Sodium Palm Kernelate, Sodium Palm Kerneloyl Isethionate, Sodium Palmoyl Glutamate, Sodium Passiflora Edulis Seedate, Sodium Peanutamphoacetate, Sodium Peanutate, Sodium PEG-6 Cocamide Carboxylate, Sodium PEG-8 Cocamide Carboxylate, Sodium PEG-4 Cocamide Sulfate, Sodium PEG-3 Lauramide Carboxylate, Sodium PEG-4 Lauramide Carboxylate, Sodium PEG-8 Palm Glycerides Carboxylate, Sodium Pentaerythrityl Hydroxypropyl Iminodiacetate Dendrimer, Sodium Propoxy PPG-2 Acetate, Sodium Rapeseedate, Sodium Ricebranamphoacetate, Sodium Ricinoleate, Sodium Ricinoleoamphoacetate, Sodium Rose Hipsamphoacetate, Sodium Rosinate, Sodium Safflowerate, Sodium Safflowerоyl Hydrolyzed Soy Protein, Sodium Sesameseedate, Sodium Sesamphoacetate, Sodium Sheabutteramphoacetate, Sodium Soyate, Sodium Soy Hydrolyzed Collagen, Sodium Stearate, Sodium Stearoamphoacetate, Sodium Stearoamphohydroxypropylsulfonate, Sodium Stearoamphopropionate, Sodium Stearoyl Casein, Sodium Stearoyl Glutamate, Sodium Stearoyl Hyaluronate, Sodium Stearoyl Hydrolyzed Collagen, Sodium Stearoyl Hydrolyzed Corn Protein, Sodium Stearoyl Hydrolyzed Silk, Sodium Stearoyl Hydrolyzed Soy Protein, Sodium Stearoyl Hydrolyzed Wheat Protein, Sodium Stearoyl Lactalbumin, Sodium Stearoyl Methyl Isethionate, Sodium Stearoyl Oat Protein, Sodium Stearoyl Pea Protein, Sodium Stearoyl Soy Protein, Sodium Stearyl Dimethyl Glycine, Sodium Stearyl Sulfate, Sodium Sunflowerseedamphoacetate, Sodium Surfactin, Sodium Sweetalmondamphoacetate, Sodium Sweet Almondate, Sodium Tallamphopropionate, Sodium Tallate, Sodium Tallowamphoacetate, Sodium Tallowate, Sodium Tallow Sulfate, Sodium Tamanuseedate, Sodium Taurate, Sodium Taurine Cocoyl Methyltaurate, Sodium Taurine Laurate, Sodium/TEA-Lauroyl Collagen Amino Acids, Sodium/TEA-Lauroyl Hydrolyzed Collagen, Sodium/TEA-Lauroyl Hydrolyzed Keratin, Sodium/TEA- Lauroyl Keratin Amino Acids, Sodium/TEA-Undecylenoyl Collagen Amino Acids, Sodium/TEA- Undecylenoyl Hydrolyzed Collagen, Sodium/TEA-Undecylenoyl Hydrolyzed Corn Protein, Sodium/TEA-Undecylenoyl Hydrolyzed Soy Protein, Sodium/TEA-Undecylenoyl Hydrolyzed Wheat Protein, Sodium Theobroma Grandiflorum Seedate, Sodium Trideceth-3 Carboxylate, Sodium Trideceth-4 Carboxylate, Sodium Trideceth-6 Carboxylate, Sodium Trideceth-7 Carboxylate,

Sodium Trideceth-8 Carboxylate, Sodium Trideceth-12 Carboxylate, Sodium Trideceth-15 Carboxylate, Sodium Trideceth-19 Carboxylate, Sodium Trideceth Sulfate, Sodium Tridecylbenzenesulfonate, Sodium Tridecyl Sulfate, Sodium Trimethylolpropane Hydroxypropyl lminodiacetate Dendrimer, Sodium Undeceth-5 Carboxylate, Sodium Undecylenate, Sodium Undecylenoamphoacetate, Sodium Undecylenoamphopropionate, Sodium Undecylenoyl Glutamate, Sodium Wheat Germamphoacetate, Sorbeth-160 Tristearate, Soy Acid, Soyamidopropylamine Oxide, Soyamidopropyl Betaine, Soybean Oil Glycereth-8 Esters, Stearamidopropylamine Oxide, Stearamidopropyl Betaine, Stearamine Oxide, Steareth-15, Steareth-16, Steareth-20, Steareth-21, Steareth-25, Steareth-27, Steareth-30, Steareth- 40, Steareth-50, Steareth-80, Steareth-100, Steareth-2 Phosphate, Steareth-3 Phosphate, Stearic Acid, Stearoxypropyltrimonium Chloride, Stearoyl Glutamic Acid, Stearoyl Sarcosine, Stearyl Betaine, Stearyldimoniumhydroxypropyl Butylglucosides Chloride, Stearyldimoniumhydroxypropyl Decylglucosides Chloride, Stearyldimoniumhydroxypropyl Laurylglucosides Chloride, Sulfated Castor Oil, Sulfated Coconut Oil, Sulfated Glyceryl Oleate, Sulfated Olive Oil, Sulfated Peanut Oil, Sunfloweramide MEA, Sunflower Seed Acid, Sunflowerseedamidopropyl Hydroxyethyldimonium Chloride, Sunflower Seed Oil Glycereth-8 Esters, Tall Oil Acid, Tallow Acid, Tallowamidopropylamine Oxide, Tallowamidopropyl Betaine, Tallowamidopropyl Hydroxysultaine, Tallowamine Oxide, Tallow Betaine, Tallow Dihydroxyethyl Betaine, Tallowoyl Ethyl Glucoside, TEA-Abietoyl Hydrolyzed Collagen, TEA-C12-14 Alkyl Phosphate, TEA-C10-15 Alkyl Sulfate, TEA-C11-15 Alkyl Sulfate, TEA- C12-13 Alkyl Sulfate, TEA-C12-14 Alkyl Sulfate, TEA-C12-15 Alkyl Sulfate, TEA C14-17 Alkyl Sec Sulfonate, TEA-Canolate, TEA-Cocamide Diacetate, TEA-Cocoate, TEA-Coco-Sulfate, TEA-Cocoyl Alaninate, TEA-Cocoyl Glutamate, TEA-Cocoyl Glutaminate, TEA-Cocoyl Glycinate, TEA-Cocoyl Hydrolyzed Collagen, TEA-Cocoyl Hydrolyzed Soy Protein, TEA-Cocoyl Sarcosinate, TEA- Dimethicone PEG-7 Phosphate, TEA-Dodecylbenzenesulfonate, TEA-Hydrogenated Cocoate, TEA-Hydrogenated Tallowoyl Glutamate, TEA-Isostearate, TEA-Isostearoyl Hydrolyzed Collagen, TEA- Lauraminopropionate, TEA-Laurate, TEA-Laurate/Myristate, TEA-Laureth Sulfate, TEA-Lauroyl Collagen Amino Acids, TEA-Lauroyl Glutamate, TEA-Lauroyl Hydrolyzed Collagen, TEA-Lauroyl Keratin Amino Acids, TEA-Lauroyl Methylaminopropionate, TEA-Lauroyl/Myristoyl Aspartate, TEA- Lauroyl Sarcosinate, TEA-Lauryl Phosphate, TEA-Lauryl Sulfate, TEA-Myristaminopropionate, TEA- Myristate, TEA-Myristoyl Hydrolyzed Collagen, TEA-Oleate, TEA-Oleoyl Hydrolyzed Collagen, TEA- Oleoyl Sarcosinate, TEA-Oleyl Sulfate, TEA-Palmitate, TEA-Palm Kernel Sarcosinate, TEA-PEG-3 Cocamide Sulfate, TEA-Rosinate, TEA-Stearate, TEA-Tallate, TEA-T ridecylbenzenesulfonate, TEA- Undecylenate, TEA-Undecylenoyl Hydrolyzed Collagen, Tetramethyl Decynediol, Tetrasodium Dicarboxyethyl Stearyl Sulfosuccinamate, TIPA-Laureth Sulfate, TIPA-Lauryl Sulfate, TIPA-Myristate, TIPA-Stearate, Tocopheryl Phosphate, Trehalose Undecylenoate, TM-C12-15 Pareth-2 Phosphate, TM-C12-15 Pareth-6 Phosphate, TM-C12-15 Pareth-8 Phosphate, TM-C12-15 Pareth-10 Phosphate, Trideceth-20, Trideceth-50, Trideceth-3 Carboxylic Acid, Trideceth-4 Carboxylic Acid, Trideceth-7 Carboxylic Acid, Trideceth-8 Carboxylic Acid, Trideceth-15 Carboxylic Acid, Trideceth-19 Carboxylic Acid, Trideceth-10 Phosphate, Tridecylbenzenesulfonic Acid, Trilau-

reth-9 Citrate, Trimethylolpropane Hydroxypropyl Bis-Hydroxyethylamine Dendrimer, Trisodium Lauroampho PG-Acetate Chloride Phosphate, Undecanoic Acid, Undeceth-5 Carboxylic Acid, Undecylenamidopropylamine Oxide, Undecylenamidopropyl Betaine, Undecylenic Acid, Undecylenoyl Collagen Amino Acids, Undecylenoyl Glycine, Undecylenoyl Hydrolyzed Collagen, Undecylenoyl Wheat Amino Acids, Undecyl Glucoside, Wheat Germ Acid, Wheat Germamidopropylamine Oxide, Wheat Germamidopropyl Betaine, Yucca Schidigera Leaf/Root/Stem Extract, Yucca Schidigera Stem Extract, Zinc Coceth Sulfatea and Zinc Coco-Sulfate.

[0034] Preferred are one or more compounds selected from the group consisting of Sodium Laureth Sulfate, Cocamidopropyl Betaine, Sodium Cocoamphoacetate, CocoGlucoside and Ammonium Lauryl Sulfosuccinate.

[0035] The percentage content of surfactants in the preparations may be from 0.1 to 10% by weight and is preferably from 0.5 to 5% by weight, based on the preparation.

OIL COMPONENTS

[0036] The composition may also contain oil bodies, also called lipids such as for example:

(i) linear or branched saturated paraffins (mineral oils) having 15 or more C atoms, in particular having 18 to 45 C atoms;

(ii) esters having 12 or more C atoms of linear or branched fatty acids having 6 to 30 C atoms and linear or branched, saturated or unsaturated mono-, di- or triols having 3 to 30 C atoms, these esters having no free hydroxyl groups;

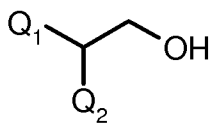
(iii) esters of benzoic acid and linear or branched, saturated or unsaturated monoalkanols having 8 to 20 C atoms;

(iv) monoesters or diesters of alcohols having 3 to 30 C atoms and naphthalene-monocarboxylic or -dicarboxylic acids; especially naphthalenemonocarboxylic acid C_6-C_{18} esters and naphthalenedicarboxylic acid di-C_6-C_{18} esters;

(v) linear or branched, saturated or unsaturated di-C_6-C_{18}-alkyl ethers;

(vi) silicone oils;

(vii) 2-alkyl-1-alkanols of the formula (III)



(III)

where

Q_1 is a linear or branched alkyl radical having 6 to 24 C atoms and

Q_2 is a linear or branched alkyl radical having 4 to 16 C atoms.

[0037] An oil phase or oil component in the narrower (and preferred) sense of the present invention, i.e. of the inventively limited substances or substances present only in a minor fraction, encompasses the following groups of substances:

(i) linear or branched, saturated paraffins having 20 to 32 C atoms;

(ii) esters having at least 14 C atoms of linear or branched, saturated fatty acids having 8 to 24 C atoms and linear or branched, saturated or unsaturated mono-, di- or triols having 3 to 24 C atoms, these esters containing no free hydroxyl groups;

(iii) esters of benzoic acid and linear or branched, saturated monoalkanols having 10 to 18 C atoms;

(iv) Alkylenediol dicaprylate caprates especially propylenediol dicaprylate caprate ;

(v) linear or branched, saturated di-C6-C18-alkyl ethers, especially (straight-chain) di-C6-C12-alkyl ethers;

(vi) silicone oils from the group of the cyclotrisiloxanes, cyclopentasiloxanes, dimethylpolysiloxanes, diethylpolysiloxanes, methylphenylpolysiloxanes, diphenylpolysiloxanes and hybrid forms thereof;

(vii) 2-alkyl-1-alkanols having 12 to 32 C atoms of the formula (III) where Q_1 is a (preferably linear) alkyl radical having 6 to 18 C atoms and Q_2 is a (preferably linear) alkyl radical having 4 to 16 C atoms.

[0038] An oil phase in the narrowest (and most preferred) sense of the present invention encompasses the following groups of substances:

(i) linear or branched, saturated paraffins having 20 to 32 C atoms such as isoeicosane or squalane;

(ii) esters having at least 16 C atoms of linear or branched, saturated fatty acids having 8 to 18 C atoms and linear or branched, saturated mono-, di- or triols having 3 to 18 C atoms, these esters containing no free hydroxyl groups;

(iii) esters of benzoic acid and linear or branched, saturated monoalkanols having 12 to 15 C atoms, especially C_{12}-$_{15}$-alkyl benzoates;

(iv) Alkylenediol dicaprylate caprates especially propylenediol dicapylate caprate ;

(v) straight-chain di-C_6-C_{10}-alkyl ethers; especially di-n-octyl ether (dicaprylyl ether);

(vi) silicone oils from the group undecamethylcyclotrisiloxane, cyclomethicone, decamethylcyclopentasiloxane, dimethylpolysiloxanes, diethylpolysiloxanes, methylphenylpolysiloxanes and diphenylpolysiloxanes;

(vii) 2-alkyl-1-alkanols having 12 to 32 C atoms of the formula (III) where Q_1 is a (preferably linear) alkyl radical having 6 to 18 C atoms and Q_2 is a (preferably linear) alkyl radical having 4 to 16 C atoms.

[0039] Particularly preferred components of type (i) in the oil phase are as follows: isopropyl myristate, isopropyl palmitate, isopropyl stearate, isopropyl oleate, n-butyl stearate, n-hexyl laurate, n-decyl oleate, isooctyl stearate, isononyl stearate, isononyl isononanoate, 2-ethylhexyl palmitate, 2-ethylhexyl laurate, 2-hexyldecyl stearate, 2-octyldodecyl palmitate, oleyl oleate, oleyl erucate, erucyl oleate, erucyl erucate, 2-ethylhexyl isostearate, isotridecyl isononanoate, 2-ethylhexyl cocoate, caprylic/capric triglyceride, Alkylenediol dicaprylate caprates especially propylenediol dicapylate caprate ;and also synthetic, semisynthetic and natural mixtures of such esters, e.g. jojoba oil.

[0040] Fatty acid triglycerides (oil components of type (i) in the oil phase) may also be in the form of, or in the form of a constituent of, synthetic, semisynthetic and/or natural oils, examples being olive oil, sunflower oil, soya oil, peanut oil, rapeseed oil, almond oil, palm oil, coconut oil, palm kernel oil and mixtures thereof.

[0041] Particularly preferred oil components of type (vii) in the oil phase are as follows: 2-butyl-1-octanol, 2-hexyl-1-decanol, 2-octyl-1-dodecanol, 2-decyltetradecanol, 2-dodecyl-1-hexadecanol and 2-tetradecyl-1-octadecanol.

[0042] Particularly preferred oil components in the oil phase are mixtures comprising C_{12}-C_{15}-alkyl benzoate and 2-ethylhexyl isostearate, mixtures comprising C_{12}-C_{15}-alkyl benzoate and isotridecyl isononanoate, mixtures comprising C_{12}-C_{15}-alkyl benzoate, 2-ethylhexyl isostearate and isotridecyl isononanoate, mixtures comprising cyclomethicone and isotridecyl isononanoate, and mixtures comprising cyclomethicone and 2-ethylhexyl isostearate.

[0043] Preferred oil bodies, which form constituents of the O/W emulsions, are, for example, Guerbet alcohols based on fatty alcohols having 6 to 18, preferably 8 to 10, carbon atoms, esters of linear C_6-C_{22}-fatty acids with linear or branched C_6-C_{22}-fatty alcohols or esters of branched C_6-C_{13}-carboxylic acids with linear or branched C_6-C_{22}-fatty alcohols, such as, for example, myristyl myristate, myristyl palmitate, myristyl stearate, myristyl isostearate, myristyl oleate, myristyl behenate, myristyl erucate, cetyl myristate, cetyl palmitate, cetyl stearate, cetyl isostearate, cetyl oleate, cetyl behenate, cetyl erucate, stearyl myristate, stearyl palmitate, stearyl stearate, stearyl isostearate, stearyl oleate, stearyl behenate, stearyl erucate, isostearyl myristate, isostearyl palmitate, isostearyl stearate, isostearyl isostearate, isostearyl oleate, isostearyl behenate, isostearyl oleate, oleyl myristate, oleyl palmitate, oleyl stearate, oleyl isostearate, oleyl oleate, oleyl behenate, oleyl erucate, behenyl myristate, behenyl palmitate, behenyl stearate, behenyl isostearate, behenyl oleate, behenyl behenate, behenyl erucate, erucyl myristate, erucyl palmitate, erucyl stearate, erucyl isostearate, erucyl oleate, erucyl behenate and erucyl erucate. Also suitable are esters of linear C_6-C_{22}-fatty acids with branched alcohols, in particular 2-ethylhexanol, esters of C_{18}-

C_{38}- alkylhydroxy carboxylic acids with linear or branched C_6-C_{22}-fatty alcohols, in particular Dioctyl Malate, esters of linear and/or branched fatty acids with polyhydric alcohols (such as, for example, propylene glycol, dimerdiol or trimertriol) and/or Guerbet alcohols, triglycerides based on C_6 -C_{10}-fatty acids, liquid mono-/di-/triglyceride mixtures based on C_6-C_{18}-fatty acids, esters of C_6- C_{22}-fatty alcohols and/or Guerbet alcohols with aromatic carboxylic acids, in particular benzoic acid, esters of C_2- C_{12}-dicarboxylic acids with linear or branched alcohols having 1 to 22 carbon atoms or polyols having 2 to 10 carbon atoms and 2 to 6 hydroxyl groups, vegetable oils, branched primary alcohols, substituted cyclohexanes, linear and branched C_6-C_{22}-fatty alcohol carbonates, such as, for example, Dicaprylyl Carbonate (Cetiol® CC), Guerbet carbonates, based on fatty alcohols having 6 to 18, preferably 8 to 10, carbon atoms, esters of benzoic acid with linear and/or branched C_6-C_{22}-alcohols (e.g. Finsolv® TN), linear or branched, symmetrical or asymmetrical dialkyl ethers having 6 to 22 carbon atoms per alkyl group, such as, for example, dicaprylyl ether (Cetiol® OE), ring-opening products of epoxidized fatty acid esters with polyols, silicone oils (cyclomethicones, silicone methicone grades, etc.) and/or aliphatic or naphthenic hydrocarbons, such as, for example, squalane, squalene or dialkylcyclohexanes.

EMULSIFIERS

[0044] Other non-ionic or cationic surfactants may also be added to the preparations as emulsifiers, including for example:

- products of the addition of 2 to 30 mol ethylene oxide and/or 0 to 5 mol propylene oxide onto linear C_{8-22} fatty alcohols, onto C_{12-22} fatty acids and onto alkyl phenols containing 8 to 15 carbon atoms in the alkyl group;
- $C_{12/18}$ fatty acid monoesters and diesters of addition products of 1 to 30 mol ethylene oxide onto glycerol;
- glycerol mono- and diesters and sorbitan mono- and diesters of saturated and unsaturated fatty acids containing 6 to 22 carbon atoms and ethylene oxide addition products thereof;
- addition products of 15 to 60 mol ethylene oxide onto castor oil and/or hydrogenated castor oil;
- polyol esters and, in particular, polyglycerol esters such as, for example, polyglycerol polyricinoleate, polyglycerol poly-12-hydroxystearate or polyglycerol dimerate isostearate. Mixtures of compounds from several of these classes are also suitable;
- addition products of 2 to 15 mol ethylene oxide onto castor oil and/or hydrogenated castor oil;
- partial esters based on linear, branched, unsaturated or saturated $C_{6/22}$ fatty acids, ricinoleic acid and 12-hydroxystearic acid and glycerol, polyglycerol, pentaerythritol, -

dipentaerythritol, sugar alcohols (for example sorbitol), alkyl glucosides (for example methyl glucoside, butyl glucoside, lauryl glucoside) and polyglucosides (for example cellulose);

- mono-, di and trialkyl phosphates and mono-, di- and/or tri-PEG-alkyl phosphates and salts thereof;
- wool wax alcohols;
- polysiloxane/polyalkyl polyether copolymers and corresponding derivatives;
- mixed esters of pentaerythritol, fatty acids, citric acid and fatty alcohol and/or mixed esters of C_{6-22} fatty acids, methyl glucose and polyols, preferably glycerol or polyglycerol,
- polyalkylene glycols and
- glycerol carbonate.

[0045] The addition products of ethylene oxide and/or propylene oxide onto fatty alcohols, fatty acids, alkylphenols, glycerol mono- and diesters and sorbitan mono- and diesters of fatty acids or onto castor oil are known commercially available products. They are homologue mixtures of which the average degree of alkoxylation corresponds to the ratio between the quantities of ethylene oxide and/or propylene oxide and substrate with which the addition reaction is carried out. $C_{12/18}$ fatty acid monoesters and diesters of addition products of ethylene oxide onto glycerol are known as lipid layer enhancers for cosmetic formulations. The preferred emulsifiers are described in more detail as follows:

[0046] Partial glycerides. Typical examples of suitable partial glycerides are hydroxystearic acid monoglyceride, hydroxystearic acid diglyceride, isostearic acid monoglyceride, isostearic acid diglyceride, oleic acid monoglyceride, oleic acid diglyceride, ricinoleic acid monoglyceride, ricinoleic acid diglyceride, linoleic acid monoglyceride, linoleic acid diglyceride, linolenic acid monoglyceride, linolenic acid diglyceride, erucic acid monoglyceride, erucic acid diglyceride, tartaric acid monoglyceride, tartaric acid diglyceride, citric acid monoglyceride, citric acid diglyceride, malic acid monoglyceride, malic acid diglyceride and technical mixtures thereof which may still contain small quantities of triglyceride from the production process. Addition products of 1 to 30 and preferably 5 to 10 mol ethylene oxide onto the partial glycerides mentioned are also suitable.

[0047] Sorbitan esters. Suitable sorbitan esters are sorbitan monoisostearate, sorbitan sesquiisostearate, sorbitan diisostearate, sorbitan triisostearate, sorbitan monooleate, sorbitan sesquioleate, sorbitan dioleate, sorbitan trioleate, sorbitan monoerucate, sorbitan sesquierucate, sorbitan dierucate, sorbitan trierucate, sorbitan monoricinoleate, sorbitan sesquiricinoleate, sorbitan diricinoleate, sorbitan triricinoleate, sorbitan monohydroxystearate, sorbitan sesquihydroxystearate, sorbitan dihydroxystearate, sorbitan trihydroxystearate,

sorbitan monotartrate, sorbitan sesquitartrate, sorbitan ditartrate, sorbitan tritartrate, sorbitan monocitrate, sorbitan sesquicitrate, sorbitan dicitrate, sorbitan tricitrate, sorbitan monomaleate, sorbitan sesquimaleate, sorbitan dimaleate, sorbitan trimaleate and technical mixtures thereof. Addition products of 1 to 30 and preferably 5 to 10 mol ethylene oxide onto the sorbitan esters mentioned are also suitable.

[0048] Polyglycerol esters. Typical examples of suitable polyglycerol esters are Polyglyceryl-2 Dipolyhydroxystearate (Dehymuls® PGPH), Polyglycerin-3-Diisostearate (Lameform® TGI), Polyglyceryl-4 Isostearate (Isolan® GI 34), Polyglyceryl-3 Oleate, Diisostearoyl Polyglyceryl-3 Diisostearate (Isolan® PDI), Polyglyceryl-3 Methylglucose Distearate (Tego Care® 450), Polyglyceryl-3 Beeswax (Cera Bellina®), Polyglyceryl-4 Caprate (Polyglycerol Caprate T2010/90), Polyglyceryl-3 Cetyl Ether (Chimexane® NL), Polyglyceryl-3 Distearate (Cremophor® GS 32) and Polyglyceryl Polyricinoleate (Admul® WOL 1403), Polyglyceryl Dimerate Isostearate and mixtures thereof. Examples of other suitable polyolesters are the mono-, di- and triesters of trimethylol propane or pentaerythritol with lauric acid, cocofatty acid, tallow fatty acid, palmitic acid, stearic acid, oleic acid, behenic acid and the like optionally reacted with 1 to 30 mol ethylene oxide.

[0049] Tetraalkyl ammonium salts. Cationically active surfactants comprise the hydrophobic high molecular group required for the surface activity in the cation by dissociation in aqueous solution. A group of important representatives of the cationic surfactants are the tetraalkyl ammonium salts of the general formula: $(R^1R^2R^3R^4N^+)$ X^-. Here R1 stands for C_1-C_8 alk(en)yl, R^2, R^3 and R^4, independently of each other, for alk(en)yl radicals having 1 to 22 carbon atoms. X is a counter ion, preferably selected from the group of the halides, alkyl sulfates and alkyl carbonates. Cationic surfactants, in which the nitrogen group is substituted with two long acyl groups and two short alk(en)yl groups, are particularly preferred.

[0050] Esterquats. A further class of cationic surfactants particularly useful as co-surfactants for the present invention is represented by the so-called esterquats. Esterquats are generally understood to be quaternised fatty acid triethanolamine ester salts. These are known compounds which can be obtained by the relevant methods of preparative organic chemistry. Reference is made in this connection to International patent application WO 91/01295 A1, according to which triethanolamine is partly esterified with fatty acids in the presence of hypophosphorous acid, air is passed through the reaction mixture and the whole is then quaternised with dimethyl sulphate or ethylene oxide. In addition, German patent DE 4308794 C1 describes a process for the production of solid esterquats in which the quaternisation of triethanolamine esters is carried out in the presence of suitable dispersants, preferably fatty alcohols.

[0051] Typical examples of esterquats suitable for use in accordance with the invention are products of which the acyl component derives from monocarboxylic acids corresponding to formula RCOOH in which RCO is an acyl group containing 6 to 10 carbon atoms, and the amine component is triethanolamine (TEA). Examples of such monocarboxylic acids are ca-

proic acid, caprylic acid, capric acid and technical mixtures thereof such as, for example, so-called head-fractionated fatty acid. Esterquats of which the acyl component derives from monocarboxylic acids containing 8 to 10 carbon atoms, are preferably used. Other esterquats are those of which the acyl component derives from dicarboxylic acids like malonic acid, succinic acid, maleic acid, fumaric acid, glutaric acid, sorbic acid, pimelic acid, azelaic acid, sebacic acid and/or dodecanedioic acid, but preferably adipic acid. Overall, esterquats of which the acyl component derives from mixtures of monocarboxylic acids containing 6 to 22 carbon atoms, and adipic acid are preferably used. The molar ratio of mono and dicarboxylic acids in the final esterquat may be in the range from 1:99 to 99:1 and is preferably in the range from 50:50 to 90:10 and more particularly in the range from 70:30 to 80:20. Besides the quaternised fatty acid triethanolamine ester salts, other suitable esterquats are quaternized ester salts of mono-/dicarboxylic acid mixtures with diethanolalkyamines or 1,2-dihydroxypropyl dialkylamines. The esterquats may be obtained both from fatty acids and from the corresponding triglycerides in admixture with the corresponding dicarboxylic acids. One such process, which is intended to be representative of the relevant prior art, is proposed in European patent EP 0750606 B1. To produce the quaternised esters, the mixtures of mono- and dicarboxylic acids and the triethanolamine - based on the available carboxyl functions - may be used in a molar ratio of 1.1:1 to 3:1. With the performance properties of the esterquats in mind, a ratio of 1.2:1 to 2.2:1 and preferably 1.5:1 to 1.9:1 has proved to be particularly advantageous. The preferred esterquats are technical mixtures of mono-, di- and triesters with an average degree of esterification of 1.5 to 1.9.

[0052] The use of a combination of anionic and/or amphoteric surfactants with one or more nonionic surfactants is further advantageous. In a preferred embodiment according to the invention the composition further comprises emulsifiers selected from the group consisting of:

- Alkyl phosphate derivatives
- Gylceryl oleate citrate derivatives
- Glycereyl stearate citrate derivatives
- Stearic acid esters
- Sorbitan esters
- Ethoxylated sorbitan esters
- Ethoxylated mono-, di- and tri glycerides
- Methyl glucose esters

SUPERFATTING AGENTS AND CONSISTENCY FACTORS

[0053] Superfatting agents may be selected from such substances as, for example, lanolin and lecithin and also polyethoxylated or acylated lanolin and lecithin derivatives, polyol fatty acid esters, monoglycerides and fatty acid alkanolamides, the fatty acid alkanolamides also serving as foam stabilizers.

[0054] The consistency factors mainly used are fatty alcohols or hydroxyfatty alcohols containing 12 to 22 and preferably 16 to 18 carbon atoms and also partial glycerides, fatty acids or hydroxyfatty acids. A combination of these substances with alkyl oligoglucosides and/or fatty acid N-methyl glucamides of the same chain length and/or polyglycerol poly-12-hydroxystearates is preferably used.

THICKENING AGENTS AND RHEOLOGY ADDITIVES

[0055] Suitable thickeners are polymeric thickeners, such as Aerosil® types (hydrophilic silicas), polysaccharides, more especially xanthan gum, guar-guar, agar-agar, alginates and tyloses, carboxymethyl cellulose and hydroxyethyl cellulose, also relatively high molecular weight polyethylene glycol monoesters and diesters of fatty acids, polyacrylates (for example Carbopols® [Goodrich] or Synthalens® [Sigma]), polyacrylamides, polyvinyl alcohol and polyvinyl pyrrolidone, surfactants such as, for example, ethoxylated fatty acid glycerides, esters of fatty acids with polyols, for example pentaerythritol or trimethylol propane, narrow-range fatty alcohol ethoxylates and electrolytes, such as sodium chloride and ammonium chloride.

POLYMERS

[0056] Suitable polymers to improve the spreadibility of the composition upon the skin or hair, or improve the water and or sweat and or rub-off resistancy of the formula and to improve the protection factor of the composition. Examples of such polymers are : VP/Eicosene copolymers sold under the trade name of Antaron V-220 by International Speciality Products, VP/Hexadecene copolymer sold under the trade names Antaron V-216 and Antaron V-516 by International Speciality Products, Tricontanyl PVP sold under the trade name of Antaron WP-660 by International Speciality Products, Isohexadecane and Ethylene/Propylene/Styrene copolymer and Butylene/Styrene copolymer sold under the trade names of Versagel MC and MD by Penreco, Hydrogenated polyisobutene and Ethylene/Propylene/Styrene copolymer and Butylene/Styrene copolymer sold under the trade mane of Versagel ME by Penreco, Acrylates/Octylacrylamide Coploymers sold under the trade name of Dermacryl 79, Dermacryl AQF and Dermacryl LT by AkzoNobel, Polyurethanes such as PPG-17/IPDI/DMPA copolymer sold under the trade name of Avalure UR 450 & 525 sold by Noveon, Polyurethanes-2 and -4 sold under the trade names Avalure UR-405, -410, -425, -430 and – 445 525 sold by Noveon, Polyurethane 5 and Butyl Acetate and isopropyl

alcohol sold under the trade name Avalure UR - 510 and – 525 sold by Noveon, Polyurethanes -1 and - 6 sold under the trade name of Luviset PUR by BASF, Hydrogenated Dimer Dilinoleyl/Dimethylcarbonate Copolymer sold under the trade name of Cosmedia DC by Cognis.

[0057] Of course, as one well versed in the art of cosmetic, dermatological and pharmacological compositions knows, this is not an exhaustive list and other suitable polymers not listed here may be used. Examples of such polymers may be found in the latest edition of the CTFA's International Cosmetic Ingredient Dictionary

[0058] The amount of polymers used to obtain the desired effect in the formulation range from 0.10% to 5.0% by weight of the composition and especially in the range from 0.25% to 3.0% by weight of the composition.

PEARLIZING WAXES

[0059] Suitable pearlising waxes are, for example, alkylene glycol esters, especially ethylene glycol distearate; fatty acid alkanolamides, especially cocofatty acid diethanolamide; partial glycerides, especially stearic acid monoglyceride; esters of polybasic, optionally hydroxy-substituted carboxylic acids with fatty alcohols containing 6 to 22 carbon atoms, especially long-chain esters of tartaric acid; fatty compounds, such as for example fatty alcohols, fatty ketones, fatty aldehydes, fatty ethers and fatty carbonates which contain in all at least 24 carbon atoms, especially laurone and distearylether; fatty acids, such as stearic acid, hydroxystearic acid or behenic acid, ring opening products of olefin epoxides containing 12 to 22 carbon atoms with fatty alcohols containing 12 to 22 carbon atoms and/or polyols containing 2 to 15 carbon atoms and 2 to 10 hydroxyl groups and mixtures thereof.

SILICONES

[0060] Suitable silicones can be chosen from the group consisting of: Acefylline Methylsilanol Mannuronate, Acetylmethionyl Methylsilanol Elastinate Acrylates/Behenyl, Acrylate/Dimethicone Methacrylate Copolymer, Acrylates/Behenyl Methacrylate/Dimethicone Methacrylate Copolymer, Acrylates/Bis-Hydroxypropyl Dimethicone Crosspolymer, Acrylates/Dimethicone Copolymer, Acrylates/Dimethicone Methacrylate/Ethylhexyl Acrylate Copolymer, Acrylates/Dimethiconol Acrylate Copolymer, Acrylates/Ethylhexyl Acrylate/Dimethicone Methacrylate Copolymer, Acrylates/Octylacrylamide/Diphenyl Amodimethicone Copolymer, Acrylates/Polytrimethylsiloxymethacrylate Copolymer, Acrylates/Propyl Trimethicone Methacrylate Copolymer, Acrylates/Stearyl Acrylate/Dimethicone Methacrylate Copolymer, Acrylates/Tridecyl Acrylate/Triethoxysilylpropyl Methacrylate/Dimethicone Methacrylate Copolymer, Acrylates/Trifluoropropylmethacrylate/Polytrimethyl Siloxymethacrylate Copolymer, Amino Bispropyl Dimethicone, Aminoethylaminopropyl Dimethicone, Aminopropyl Dimethicone, Aminopropyl Phenyl Trimethicone, Aminopropyl Triethoxysilane,

Ammonium Dimethicone PEG-7 Sulfate, Amodimethicone, Amodimethicone Hydroxystearate, Amodimethicone/Silsesquioxane Copolymer, Ascorbyl Carboxydecyl Trisiloxane, Ascorbyl Methylsilanol Pectinate, Behenoxy Dimethicone, Behentrimonium Dimethicone PEG-8 Phthalate, Behenyl Dimethicone, Bisamino PEG/PPG-41/3 Aminoethyl PG-Propyl Dimethicone, Bis-Aminopropyl/Ethoxy Aminopropyl Dimethicone, Bis(Butylbenzoate) Diaminotriazine Aminopropyltrisiloxane, Bis-Butyldimethicone Polyglyceryl-3, Bis-Butyloxyamodimethicone/PEG-60 Copolymer, Bis(C13-15 Alkoxy) Hydroxybutamidoamodimethicone, Bis(C13-15 Alkoxy) PG- Amodimethicone, Bis-(C1-8 Alkyl Lauroyl Lysine Decylcarboxamide) Dimethicone, Bis-Cetyl Cetyl Dimethicone, Bis-Cetyl/PEG-8 Cetyl PEG-8 Dimethicone, Bis-Diphenylethyl Disiloxane, Bis-Ethyl Ethyl Methicone, Bis-Gluconamidoethylaminopropyl Dimethicone, Bis-Hydrogen Dimethicone, Bis- Hydroxyethoxypropyl Dimethicone Bis-Hydroxylauryl, Dimethicone/IPDI Copolymer, Bis- Hydroxy/Methoxy Amodimethicone, Bis-Hydroxypropyl Dimethicone Behenate, Bis-Hydroxypropyl Dimethicone/SMDI Copolymer, Bis-Isobutyl PEG-14/Amodimethicone Copolymer, Bis-Isobutyl PEG- 15/Amodimethicone Copolymer, Bis-Isobutyl PEG/PPG-20/35/Amodimethicone Copolymer, Bis- Isobutyl PEG/PPG-10/7/Dimethicone Copolymer, Bis-Isobutyl PEG-24/PPG-7/Dimethicone Copolymer, Bis-PEG-1 Dimethicone, Bis-PEG-4 Dimethicone, Bis-PEG-8 Dimethicone, Bis-PEG-12 Dimethicone,Bis-PEG-20 Dimethicone, Bis-PEG-12 Dimethicone Beeswax, Bis-PEG-12 Dimethicone Candelillate, Bis-PEG-15 Dimethicone/IPDI Copolymer, Bis-PEG-15 Methyl Ether Dimethicone, Bis- PEG-18 Methyl Ether Dimethyl Silane, Bis-PEG/PPG-14/14 Dimethicone, Bis-PEG/PPG-15/5 Dimethicone, Bis-PEG/PPG-18/6 Dimethicone, Bis-PEG/PPG-20/20 Dimethicone, Bis-PEG/PPG- 16/16 PEG/PPG-16/16 Dimethicone, Bis-PEG/PPG-20/5 PEG/PPG-20/5 Dimethicone, Bisphenylhexamethicone, Bis-Phenylpropyl Dimethicone, Bispolyethylene Dimethicone, Bis- (Polyglyceryl-3 Oxyphenylpropyl) Dimethicone, Bis-(Polyglyceryl-7 Oxyphenylpropyl) Dimethicone, Bis-PPG-15 Dimethicone/IPDI Copolymer, Bis(PPG-7 Undeceneth-21) Dimethicone, Bis-Stearyl Dimethicone, Bis-Trimethoxysilylethyl Tetramethyldisiloxyethyl Dimethicone, Bis-Vinyldimethicone, Bis-Vinyl Dimethicone/Dimethicone Copolymer, Borage Seed Oil PEG-7 Dimethicone Esters, Butyl Acrylate/C6-14 Perfluoroalkylethyl Acrylate/Mercaptopropyl Dimethicone Copolymer, Butyl Acrylate/Hydroxypropyl Dimethicone Acrylate Copolymer, Butyl Dimethicone Acrylate/Cyclohexylmethacrylate/Ethylhexyl Acrylate Copolymer, Butyldimethicone Methacrylate/Methyl Methacrylate Crosspolymer, t-Butyl Dimethyl Silyl Grape Seed Extract, Butyl Polydimethylsiloxyl Ethylene/Propylene/Vinylnorbornene Copolymer, C6-8 Alkyl C3-6 Alkyl Glucoside Dimethicone, C20-24 Alkyl Dimethicone,C24-28 Alkyl Dimethicone, C26-28 Alkyl Dimethicone, C30-45 Alkyl Dimethicone, C30-60 Alkyl Dimethicone, C32 Alkyl Dimethicone, C30-45 Alkyl Dimethicone/Polycyclohexene Oxide Crosspolymer, C26-28 Alkyldimethylsilyl Polypropylsilsesquioxane, C30-45 Alkyldimethylsilyl Polypropylsilsesquioxane, C20-24 Alkyl Methicone, C24-28 Alkyl Methicone, C26-28 Alkyl Methicone, C30-45 Alkyl Methicone, C20-28 Alkyl Perfluorodecylethoxy Dimethicone, C26-54 Alkyl Tetradecyl Dimethicone, Capryl Dimethicone, Caprylyl Dimethicone Ethoxy Glucoside, Caprylyl Methicone, Caprylyl Trimethicone, Carboxydecyl Trisiloxane, Castor Oil Bis-Hydroxypropyl

Dimethicone Esters Cerotyl Dimethicone, Cetearyl Dimethicone Crosspolymer, Cetearyl Dimethicone/Vinyl Dimethicone Crosspolymer, Cetearyl Methicone, Cetrimonium Carboxydecyl PEG-8 Dimethicone, Cetrimonium Dimethicone PEG-7 Phthalate, Cetyl Behenyl Dimethicone, Cetyl Dimethicone, Cetyl Dimethicone/Bis-Vinyldimethicone Crosspolymer, Cetyl Hexacosyl Dimethicone, Cetyloxy Dimethicone, Cetyl PEG-8 Dimethicone, Cetyl PEG/PPG-15/15 Butyl Ether Dimethicone, Cetyl PEG/PPG-7/3 Dimethicone, Cetyl PEG/PPG-10/1 Dimethicone, Cetyl Triethylmonium Dimethicone PEG-8 Phthalate, Cetyl Triethylmonium Dimethicone PEG-8 Succinate, Copper Acetyl Tyrosinate Methylsilanol, Copper PCA Methylsilanol, C4-14 Perfluoroalkylethoxy Dimethicone, Cycloethoxymethicone, Cycloheptasiloxane, Cyclohexasiloxane, Cyclomethicone, Cyclopentasiloxane, Cyclophenylmethicone, Cyclotetrasiloxane,mCyclovinylmethicone, Cystine Bis-PG-Propyl Silanetriol, DEA PG-Propyl PEG/PPG-18/21 Dimethicone, Diisostearoyl Trimethylolpropane Siloxy Silicate, Dilauroyl Trimethylolpropane Siloxy Silicate, Dilinoleamidopropyl Dimethylamine Dimethicone PEG-7 Phosphate, Dimethicone, Dimethicone Crosspolymer, Dimethicone Crosspolymer-3, Dimethicone/Divinyldimethicone/Silsesquioxane Crosspolymer, Dimethicone Ethoxy Glucoside, Dimethicone Hydroxypropyl Trimonium Chloride, Dimethicone/Mercaptopropyl Methicone Copolymer, Dimethicone PEG-15 Acetate Dimethicone PEG-8 Adipate, Dimethicone PEG-7 Avocadoate, Dimethicone PEG-8 Avocadoate, Dimethicone PEG-8 Beeswax, Dimethicone PEG-8 Benzoate, Dimethicone PEG-8 Borageate, Dimethicone PEG-7 Cocoate, Dimethicone/PEG-10 Crosspolymer, Dimethicone/PEG-10/15 Crosspolymer, Dimethicone/PEG-15 Crosspolymer, Dimethicone PEG-7 Isostearate, Dimethicone PEG-8 Isostearate, Dimethicone PEG-7 Lactate, Dimethicone PEG-8 Lanolate, Dimethicone PEG-8 Laurate, Dimethicone PEG-8 Meadowfoamate, Dimethicone PEG-7 Octyldodecyl Citrate, Dimethicone PEG-7 Olivate, Dimethicone PEG-8 Olivate, Dimethicone PEG-7 Phosphate, Dimethicone PEG-8 Phosphate, Dimethicone PEG-10 Phosphate, Dimethicone PEG-7 Phthalate, Dimethicone PEG-8 Phthalate, Dimethicone PEG-8 Polyacrylate, Dimethicone PEG/PPG- 20/23 Benzoate, Dimethicone PEG/PPG-7/4 Phosphate, Dimethicone PEG/PPG-12/4 Phosphate, Dimethicone PEG-7 Succinate, Dimethicone PEG-8 Succinate, Dimethicone PEG-7 Sulfate, Dimethicone PEG-7 Undecylenate, Dimethicone PG-Diethylmonium Chloride, Dimethicone/Phenyl Vinyl Dimethicone Crosspolymer, Dimethicone/Polyglycerin-3 Crosspolymer, Dimethicone/PPG-20 Crosspolymer, Dimethicone Propylethylenediamine Behenate, Dimethicone Propyl PG-Betaine, Dimethicone/Silsesquioxane Copolymer, Dimethicone Silylate, Dimethicone?/inyl Dimethicone Crosspolymer, Dimethicone/Vinyltrimethylsiloxysilicate Crosspolymer, Dimethiconol, Dimethiconol Arginine, Dimethiconol Beeswax, Dimethiconol Behenate, Dimethiconol Borageate, Dimethiconol Candelillate, Dimethiconol Carnaubate, Dimethiconol Cysteine, Dimethiconol Dhupa Butterate, Dimethiconol Fluoroalcohol Dilinoleic Acid, Dimethiconol Hydroxystearate, Dimethiconol Illipe Butterate, Dimethiconol/IPDI Copolymer, Dimethiconol Isostearate, Dimethiconol Kokum Butterate, Dimethiconol Lactate, Dimethiconol Meadowfoamate, Dimethiconol Methionine, Dimethiconol/Methylsilanol/Silicate Crosspolymer, Dimethiconol Mohwa Butterate, Dimethiconol Panthenol, Dimethiconol Sal Butterate, Dimethiconol/Silica Crosspolymer, Dimethiconol/Silsesquioxane Copolymer, Dimethiconol

Stearate, Dimethiconol/Stearyl, Methicone/Phenyl Trimethicone Copolymer, Dimethoxysilyl Ethylenediaminopropyl Dimethicone, Dimethylaminopropylamido PCA Dimethicone, Dimethyl Oxobenzo Dioxasilane, Dimethylsilanol Hyaluronate, Dioleyl Tocopheryl Methylsilanol, Diphenyl Amodimethicone, Diphenyl Dimethicone, Diphenyl Dimethicone Crosspolymer Diphenyl Dimethicone?/inyl Diphenyl Dimethicone/Silsesquioxane Crosspolymer, Diphenylethyl Benzyloxy Dilsiloxane, Diphenylisopropyl Dimethicone, Diphenylsiloxy Phenyl/Propyl Trimethicone, Diphenylsiloxy Phenyl Trimethicone Disiloxane, Disodium Amodimethicone Disuccinamide, Disodium PEG-12 Dimethicone Sulfosuccinate, Disodium PEG-8 Lauryl Dimethicone Sulfosuccinate, Divinyldimethicone/Dimethicone Copolymer, Divinyldimethicone/Dimethicone Crosspolymer, Drometrizole Trisiloxane, Ethylhexyl Acrylate/VP/Dimethicone Methacrylate Copolymer, Ethyl Methicone, Ethyl Trisiloxane, Fluoro C2-8 Alkyldimethicone, Gluconamidopropyl Aminopropyl Dimethicone, 4-(2-Beta-Glucopyranosiloxy) Propoxy-2-Hydroxybenzophenone, Glyceryl Undecyl Dimethicone, Glycidoxy Dimethicone, Hexadecyl Methicone, Hexyl Dimethicone, Hexyl Methicone, Hexyltrimethoxysilane, Hydrogen Dimethicone, Hydrogen Dimethicone/Octyl Silsesquioxane Copolymer, Hydrolyzed Collagen PG-Propyl Dimethiconol, Hydrolyzed Collagen PG-Propyl Methylsilanediol, Hydrolyzed Collagen PG-Propyl Silanetriol, Hydrolyzed Keratin PG-Propyl Methylsilanediol, Hydrolyzed Sesame Protein PG-Propyl Methylsilanediol, Hydrolyzed Silk PG-Propyl Methylsilanediol, Hydrolyzed Silk PG-Propyl Methylsilanediol Crosspolymer, Hydrolyzed Soy Protein/Dimethicone PEG-7 Acetate, Hydrolyzed Soy Protein PG-Propyl Methylsilanediol, Hydrolyzed Vegetable Protein PG-Propyl Silanetriol, Hydrolyzed Wheat Protein/Cystine Bis-PG-Propyl Silanetriol Copolymer, Hydrolyzed Wheat Protein/Dimethicone PEG-7 Acetate, Hydrolyzed Wheat Protein/Dimethicone PEG-7 Phosphate Copolymer, Hydrolyzed Wheat Protein PG-Propyl Methylsilanediol, Hydrolyzed Wheat Protein PG-Propyl Silanetriol, Hydroxyethyl Acetomonium PG-Dimethicone, Hydroxypropyldimethicone, Hydroxypropyl Dimethicone Behenate, Hydroxypropyl Dimethicone Isostearate, Hydroxypropyl Dimethicone Stearate, Isobutylmethacrylate/Bis-Hydroxypropyl Dimethicone Acrylate Copolymer, Isobutylmethacrylate/Trifluoroethylmethacrylate/Bis-Hydroxypropyl Dimethicone Acrylate Copolymer, Isopentyl Trimethoxycinnamate Trisiloxane, Isopolyglyceryl-3 Dimethicone, Isopolyglyceryl-3 Dimethiconol, Isopropyl Titanium Triisostearate/Triethoxysilylethyl, Polydimethylsiloxyethyl Dimethicone Crosspolymer, Isostearyl Carboxydecyl PEG-8 Dimethicone, Lactoyl Methylsilanol Elastinate, Lauryl Dimethicone, Lauryl Dimethicone PEG-15 Crosspolymer, Lauryl Dimethicone PEG- 10 Phosphate, Lauryl Dimethicone/Polyglycerin-3 Crosspolymer, Lauryl Methicone, Lauryl PEG-8 Dimethicone, Lauryl PEG-10 Methyl Ether Dimethicone, Lauryl PEG-9 Polydimethylsiloxyethyl Dimethicone, Lauryl PEG/PPG-18/18 Methicone, Lauryl Phenylisopropyl Methicone, Lauryl Phenylpropyl Methicone, Lauryl Polydimethylsiloxyethyl Dimethicone/Bis-Vinyldimethicone Crosspolymer, Lauryl Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone, Lauryl Trimethicone, Linoleamidopropyl PG-Dimonium Chloride Phosphate Dimethicone, Methacryloyl Propyltrimethoxysilane, Methicone, Methoxy Amodimethicone/Silsesquioxane Copolymer, Methoxycinnamidopropyl Polysilsesquioxane, Methoxycinnamoylpropyl Silsesquioxane Silicate, Methoxy PEG-13 Ethyl Polysilsesqui-

oxane, Methoxy PEG/PPG-7/3 Aminopropyl Dimethicone, Methoxy PEG/PPG-25/4 Dimethicone, Methoxy PEG-10 Propyltrimethoxysilane, Methyleugenyl PEG- 8 Dimethicone, Methylpolysiloxane Emulsion, Methylsilanol Acetylmethionate, Methylsilanol Acetyltyrosine, Methylsilanol Ascorbate, Methylsilanol Carboxymethyl Theophylline, Methylsilanol Carboxymethyl Theophylline Alginate, Methylsilanol Elastinate, Methylsilanol Glycyrrhizinate, Methylsilanol Hydroxyproline, Methylsilanol Hydroxyproline Aspartate, Methylsilanol Mannuronate, Methylsilanol PCA, Methylsilanol PEG-7 Glyceryl Cocoate, Methylsilanol/Silicate Crosspolymer, Methylsilanol Spirulinate, Methylsilanol Tri-PEG-8 Glyceryl Cocoate, Methyl Trimethicone, Methyltrimethoxysilane, Myristylamidopropyl Dimethylamine Dimethicone PEG-7 Phosphate, Myristyl Methicone, Myristyl Trisiloxane, Nylon-611/Dimethicone Copolymer, PCA Dimethicone, PEG-7 Amodimethicone, PEG-8 Amodimethicone, PEG-8 Cetyl Dimethicone, PEG-3 Dimethicone, PEG-6 Dimethicone, PEG-7 Dimethicone, PEG-8 Dimethicone, PEG-9 Dimethicone, PEG-10 Dimethicone, PEG-12 Dimethicone, PEG-14 Dimethicone, PEG-17 Dimethicone, PEG-10 Dimethicone Crosspolymer, PEG-12 Dimethicone Crosspolymer, PEG-8 Dimethicone Dimer Dilinoleate, PEG-8 Dimethicone/Dimer Dilinoleic Acid Copolymer, PEG-10 Dimethicone/Vinyl Dimethicone Crosspolymer, PEG-8 Distearmonium Chloride PG-Dimethicone, PEG-10/Lauryl Dimethicone Crosspolymer, PEG- 15/Lauryl Dimethicone Crosspolymer, PEG-15/Lauryl Polydimethylsiloxyethyl Dimethicone Crosspolymer, PEG-8 Methicone, PEG-6 Methicone Acetate, PEG-6 Methyl Ether Dimethicone, PEG- 7 Methyl Ether Dimethicone, PEG-8 Methyl Ether Dimethicone, PEG-9 Methyl Ether Dimethicone, PEG-10 Methyl Ether Dimethicone, PEG-11 Methyl Ether Dimethicone, PEG-32 Methyl Ether Dimethicone, PEG-8 Methyl Ether Triethoxysilane, PEG-10 Nonafluorohexyl Dimethicone Copolymer, PEG-4 PEG-12 Dimethicone, PEG-8 PG-Coco-Glucoside Dimethicone, PEG-9 Polydimethylsiloxyethyl Dimethicone, PEG/PPG-20/22 Butyl Ether Dimethicone, PEG/PPG-22/22 Butyl Ether Dimethicone, PEG/PPG-23/23 Butyl Ether Dimethicone, PEG/PPG-24/18 Butyl Ether Dimethicone, PEG/PPG-27/9 Butyl Ether Dimethicone, PEG/PPG-3/10 Dimethicone, PEG/PPG-4/12 Dimethicone, PEG/PPG-6/4 Dimethicone, PEG/PPG-6/11 Dimethicone, PEG/PPG-8/14 Dimethicone, PEG/PPG-8/26 Dimethicone, PEG/PPG-10/2 Dimethicone, PEG/PPG-12/16 Dimethicone, PEG/PPG- 12/18 Dimethicone, PEG/PPG-14/4 Dimethicone, PEG/PPG-15/5 Dimethicone, PEG/PPG-15/15 Dimethicone, PEG/PPG-16/2 Dimethicone, PEG/PPG-16/8 Dimethicone, PEG/PPG-17/18 Dimethicone, PEG/PPG-18/6 Dimethicone, PEG/PPG-18/12 Dimethicone, PEG/PPG-18/18 Dimethicone, PEG/PPG-19/19 Dimethicone, PEG/PPG-20/6 Dimethicone, PEG/PPG-20/15 Dimethicone, PEG/PPG-20/20 Dimethicone, PEG/PPG-20/23 Dimethicone, PEG/PPG-20/29 Dimethicone, PEG/PPG-22/23 Dimethicone, PEG/PPG-22/24 Dimethicone, PEG/PPG-23/6 Dimethicone, PEG/PPG-25/25 Dimethicone, PEG/PPG-27/27 Dimethicone, PEG/PPG-30/10 Dimethicone, PEG/PPG-25/25 Dimethicone/Acrylates Copolymer, PEG/PPG-20/22 Methyl Ether Dimethicone, PEG/PPG-24/24 Methyl Ether Glycidoxy Dimethicone, PEG/PPG-10/3 Oleyl Ether Dimethicone, PEG/PPG-5/3 Trisiloxane, PEG-4 Trifluoropropyl Dimethicone Copolymer, PEG-8 Trifluoropropyl Dimethicone Copolymer, PEG-10 Trifluoropropyl Dimethicone Copolymer, PEG-8 Trisiloxane, Perfluorocaprylyl riethoxysilylethyl Methicone, Perfluorononyl Dimethicone, Perfluorononyl

Dimethicone/Methicone/Amodimethicone Crosspolymer, Perfluorononylethyl Carboxydecyl Behenyl Dimethicone, Perfluorononylethyl Carboxydecyl Hexacosyl Dimethicone, Perfluorononylethyl Carboxydecyl Lauryl/Behenyl Dimethicone, Perfluorononylethyl Carboxydecyl Lauryl Dimethicone, Perfluorononylethyl Carboxydecyl PEG-8 Dimethicone, Perfluorononylethyl Carboxydecyl PEG-10 Dimethicone, Perfluorononylethyl Dimethicone/Methicone Copolymer, Perfluorononylethyl PEG-8 Dimethicone, Perfluorononylethyl Stearyl Dimethicone, Perfluorooctylethyl/Diphenyl Dimethicone Copolymer, Perfluorooctylethyl Triethoxysilane, Perfluorooctylethyl Trimethoxysilane, Perfluorooctylethyl Trisiloxane, Perfluorooctyl Triethoxysilane, PG-Amodimethicone, Phenethyl Dimethicone, Phenethyl Disiloxane, Phenyl Dimethicone, Phenylisopropyl Dimethicone, Phenyl Methicone, Phenyl Methiconol, Phenylpropyldimethylsiloxysilicate, Phenylpropyl Ethyl Methicone, Phenyl Propyl Trimethicone, Phenyl Propyl Trimethicone/Diphenylmethicone, Phenyl Trimethicone, Platinum Divinyldisiloxane, Polyacrylate-6, Polydiethylsiloxane, Polydimethylsiloxyethyl Dimethicone/Bis-Vinyldimethicone Crosspolymer, Polydimethylsiloxyethyl Dimethicone/Methicone Copolymer, Polydimethylsiloxy PEG/PPG-24/19 Butyl Ether Silsesquioxane, Polydimethylsiloxy PPG-13 Butyl Ether Silsesquioxane, Polyglyceryl-3 Disiloxane Dimethicone, Polyglyceryl-3/Lauryl Polydimethylsiloxyethyl Dimethicone Crosspolymer, Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone, Poly(Glycol Adipate)/Bis-Hydroxyethoxypropyl Dimethicone Copolymer, Polymethylsilsesquioxane, Polymethylsilsesquioxane/Trimethylsiloxysilicate, Polyphenylsilsesquioxane, Polypropylsilsesquioxane, Polysilicone-1, Polysilicone-2, Polysilicone-3, Polysilicone-4, Polysilicone-5, Polysilicone-6, Polysilicone-7, Polysilicone-8, Polysilicone-9, Polysilicone-10, Polysilicone-11, Polysilicone-12, Polysilicone-13, Polysilicone-14, Polysilicone-15, Polysilicone-16, Polysilicone-17, Polysilicone-18, Polysilicone-19, Polysilicone-20, Polysilicone-21, Polysilicone-18 Cetyl Phosphate, Polysilicone-1 Crosspolymer, Polysilicone-18 Stearate, Polyurethane-10, Potassium Dimethicone PEG-7 Panthenyl Phosphate, Potassium Dimethicone PEG- 7 Phosphate, PPG-12 Butyl Ether Dimethicone, PPG-2 Dimethicone, PPG-12 Dimethicone, PPG-27 Dimethicone, PPG-4 Oleth-10 Dimethicone, Propoxytetramethyl Piperidinyl Dimethicone, Propyl Trimethicone, Quaternium-80, Retinoxytrimethylsilane, Silanediol Salicylate, Silanetriol, Silanetriol Arginate, Silanetriol Glutamate, Silanetriol Lysinate, Silanetriol Melaninate, Silanetriol Trehalose Ether, Silica, Silica Dimethicone Silylate, Silica Dimethyl Silylate, Silica Silylate, Silicon Carbide, Silicone Quaternium-1, Silicone Quaternium-2, Silicone Quaternium-2 Panthenol Succinate, Silicone Quaternium-3, Silicone Quaternium-4, Silicone Quaternium-5, Silicone Quaternium-6, Silicone Quaternium-7, Silicone Quaternium-8, Silicone Quaternium-9, Silicone Quaternium-10, Silicone Quaternium-11, Silicone Quaternium-12, Silicone Quaternium-15, SiliconeQuaternium-16, Silicone Quaternium-16/Glycidoxy Dimethicone Crosspolymer, Silicone Quaternium-17, Silicone Quaternium- 18, Silicone Quaternium-19, Silicone Quaternium-20, Silicone Quaternium-21, Silicone Quaternium- 22, Silicone Quaternium-24, Silicone Quaternium-25, Siloxanetriol Alginate, Siloxanetriol Phytate, Simethicone, Sodium Carboxydecyl PEG-8 Dimethicone, Sodium Dimethicone PEG-7 Acetyl Methyltaurate, Sodium Hyaluronate Dimethylsilanol, Sodium Lactate Methylsilanol, Sodium Mannuronate Methylsilanol, Sodium PCA Methylsilanol, Sodium PG-

Propyldimethicone Thiosulfate Copolymer, Sodium PG-Propyl Thiosulfate Dimethicone, Sodium Propoxyhydroxypropyl Thiosulfate Silica, Sorbityl Silanediol, Soy Triethoxysilylpropyldimonium Chloride, Stearalkonium Dimethicone PEG-8 Phthalate, Stearamidopropyl Dimethicone, Steardimonium Hydroxypropyl Panthenyl PEG-7 Dimethicone Phosphate Chloride, Steardimonium Hydroxypropyl PEG-7 Dimethicone Phosphate Chloride, Stearoxy Dimethicone, Stearoxymethicone/Dimethicone Copolymer, Stearoxytrimethylsilane, Stearyl Aminopropyl Methicone, Stearyl Dimethicone, Stearyl/Lauryl Methacrylate Crosspolymer, Stearyl Methicone, Stearyl Triethoxysilanek, Stearyl Trimethicone, Styrene/Acrylates/Dimethicone Acrylate Crosspolymer, Styrene/Acrylates/Dimethicone Copolymer, TEA-Dimethicone PEG-7 Phosphate, Tetrabutoxypropyl Trisiloxane, Tetramethyl Hexaphenyl Tetrasiloxane, Tetramethyl Tetraphenyl Trisiloxane, Tocopheryloxypropyl Trisiloxane, Trideceth-9 PG-Amodimethicone, Triethoxycaprylylsilane, Triethoxysilylethyl Dimethicone/Methicone Copolymer, Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone, Triethoxysilylethyl Polydimethylsiloxyethyl Hexyl Dimethicone, Triethoxysilylpropylcarbamoyl Ethoxypropyl Butyl Dimethicone, Trifluoromethyl C1-4 Alkyl Dimethicone, Trifluoropropyl Cyclopentasiloxane, Trifluoropropyl Cyclotetrasiloxane, Trifluoropropyl Dimethicone, Trifluoropropyl Dimethicone/PEG-10 Crosspolymer, Trifluoropropyl Dimethicone/Trifluoropropyl Divinyldimethicone Crosspolymer, Trifluoropropyl Dimethicone/Vinyl Trifluoropropyl, Dimethicone/Silsesquioxane Crosspolymer, Trifluoropropyl Dimethiconol, Trifluoropropyldimethyl/trimethylsiloxysilicate, Trifluoropropyl Methicone, Trimethoxycaprylylsilane, Trimethoxysilyl Dimethicone, Trimethyl Pentaphenyl Trisiloxane, Trimethylsiloxyamodimethicone, Trimethylsiloxyphenyl Dimethicone, Trimethylsiloxysilicate, Trimethylsiloxysilicate/Dimethicone Crosspolymer, Trimethylsiloxysilicate/Dimethiconol Crosspolymer, Trimethylsiloxysilylcarbamoyl Pullulan, Trimethylsilyl Hydrolyzed Conchiolin Protein PG-Propyl Methylsilanediol Crosspolymer, Trimethylsilyl Hydrolyzed Silk PG-Propyl Methylsilanediol Crosspolymer, Trimethylsilyl Hydrolyzed Wheat Protein PG-Propyl Methylsilanediol Crosspolymer, Trimethylsilyl Pullulan, Trimethylsilyl Trimethylsiloxy Glycolate, Trimethylsilyl Trimethylsiloxy Lactate, Trimethylsilyl Trimethylsiloxy Salicylate, Triphenyl Trimethicone, Trisiloxane, Tris-Tributoxysiloxymethylsilane, Undecylcrylene Dimethicone, Vinyl Dimethicone, Vinyl Dimethicone/Lauryl Dimethicone Crosspolymer, Vinyl Dimethicone/Methicone Silsesquioxane Crosspolymer, Vinyldimethyl/Trimethylsiloxysilicate Stearyl Dimethicone Crosspolymer, VP/Dimethiconylacrylate/Polycarbamyl/Polyglycol Ester, Zinc Carboxydecyl Trisiloxane and Zinc Dimethicone PEG-8 Succinate and mixtures thereof.

[0061] More preferably the silicones to be contained in the mixture according to the inventions are Dimethicone, Cyclomethicone, Phenyl Trimethicone, Cyclohexasiloxane and Cyclopentasiloxane. A detailed overview of suitable volatile silicones can be found in **Todd et al. in Cosm. Toil. 91, 27 (1976)**.

WAXES AND STABILIZERS

[0062] Besides natural oils used, waxes may also be present in the preparations, more especially natural waxes such as, for example, candelilla wax, carnauba wax, Japan wax, espartograss wax, cork wax, guaruma wax, rice oil wax, sugar cane wax, ouricury wax, montan wax, beeswax, shellac wax, spermaceti, lanolin (wool wax), uropygial fat, ceresine, ozocerite (earth wax), petrolatum, paraffin waxes and microwaxes; chemically modified waxes (hard waxes) such as, for example, montan ester waxes, sasol waxes, hydrogenated jojoba waxes and synthetic waxes such as, for example, polyalkylene waxes and polyethylene glycol waxes.

[0063] Metal salts of fatty acids such as, for example, magnesium, aluminium and/or zinc stearate or ricinoleate may be used as stabilizers.

1,2-ALKANEDIOLS

[0064] In a particular preferred embodiment the compositions may contain 1,2-alkanediols having to 12 carbonatoms, such as 1,2-pentane diol, 1,2-hexanediol, 1,2-octanediol, 1,2-decanediol, a mixture of 1,2-hexanediol and 1,2-octanediol, a mixture of 1,2-hexanediol and 1,2-decanediol, a mixture of 1,2-octanediol and 1,2-decanediol, a mixture of 1,2-hexanediol, 1,2-octanediol and 1,2-decanediol, preferably in amounts of from 0.1 to about 10 and preferably from about 1 to about 8 percent by weight.

FATTY ALCOHOLS

[0065] The compositions may also encompass fatty alcohols having 6 to 30 C atoms. The fatty alcohols here can be saturated or unsaturated and linear or branched. Furthermore, these fatty alcohols can in some cases be part of the oil phase (III) if they correspond to the definition given there. Alcohols which can be employed are, for example, decanol, decenol, octanol, octenol, dodecanol, dodecenol, octadienol, decadienol, dodecadienol, oleyl alcohol, ricinoleyl alcohol, erucyl alcohol, stearyl alcohol, isostearyl alcohol, cetyl alcohol, lauryl alcohol, myristyl alcohol, arachidyl alcohol, caprylyl alcohol, capryl alcohol, linoleyl alcohol, linolenyl alcohol and behenyl alcohol, and also Guerbet alcohols thereof, such as, for example, 2-octyl-1-dodecanol, it being possible for the list to be extended virtually as desired by further alcohols of related structural chemistry. The fatty alcohols preferably originate from natural fatty acids, being conventionally prepared from the corresponding esters of the fatty acids by reduction. Fatty alcohol fractions which are formed by reduction from naturally occurring fats and fatty oils, such as beef tallow, peanut oil, colza oil, cottonseed oil, soya oil, sunflower oil, palm kernel oil, linseed oil, maize oil, castor oil, rapeseed oil, sesame oil, cacao butter and coconut fat, can further be employed.

PRIMARY SUN PROTECTION FACTORS

[0066] Primary sun protection factors in the context of the invention are, for example, organic substances (light filters) which are liquid or crystalline at room temperature and which are capable of absorbing ultraviolet radiation and of releasing the energy absorbed in the form of longer-wave radiation, for example heat.

[0067] The formulations according to the invention advantageously contain at least one UV-A filter and/or at least one UV-B filter and/or a broadband filter and/or at least one inorganic pigment. Formulations according to the invention preferably contain at least one UV-B filter or a broadband filter, more particularly preferably at least one UV-A filter and at least one UV-B filter.

[0068] Preferred cosmetic compositions, preferably topical formulations according to the present invention comprise one, two, three or more sun protection factors selected from the group consistiung of 4-aminobenzoic acid and derivatives, salicylic acid derivatives, benzophenone derivatives, dibenzoylmethane derivatives, diphenyl acrylates, 3-imidazol-4-yl acrylic acid and esters thereof, benzofuran derivatives, benzylidene malonate derivatives, polymeric UV absorbers containing one or more organosilicon radicals, cinnamic acid derivatives, camphor derivatives, trianilino-s-triazine derivatives, 2-hydroxyphenylbenzotriazole derivatives, phenylbenzimidazole sulfonic acid derivatives and salts thereof, anthranilic acid menthyl esters, benzotriazole derivativesand indole derivatives.

[0069] In addition, it is advantageous to combine compounds of formula (I) with active ingredients which penetrate into the skin and protect the skin cells from inside against sunlight-induced damage and reduce the level of cutaneous matrix metalloproteases. Preferred respective ingredients, so called arylhydrocarbon receptor antagonists, are described in WO 2007/128723, incorporated herein by reference. Preferred is 2-benzylidene-5,6-dimethoxy-3,3-dimethylindan-1-one.

[0070] The UV filters cited below which can be used within the context of the present invention are preferred but naturally are not limiting.

[0071] UV filters which are preferably used are selected from the group consisting of

- p-aminobenzoic acid
- p-aminobenzoic acid ethyl ester (25 mol) ethoxylated (INCI name: PEG-25 PABA)
- p-dimethylaminobenzoic acid-2-ethylhexyl ester
- p-aminobenzoic acid ethyl ester (2 mol) N-propoxylated
- p-aminobenzoic acid glycerol ester
- salicylic acid homomenthyl ester (homosalates) (Neo Heliopan®HMS)
- salicylic acid-2-ethylhexyl ester (Neo Heliopan®OS)
- triethanolamine salicylate

- 4-isopropyl benzyl salicylate
- anthranilic acid menthyl ester (Neo Heliopan®MA)
- diisopropyl cinnamic acid ethyl ester
- p-methoxycinnamic acid-2-ethylhexyl ester (Neo Heliopan®AV)
- diisopropyl cinnamic acid methyl ester
- p-methoxycinnamic acid isoamyl ester (Neo Heliopan®E 1000)
- p-methoxycinnamic acid diethanolamine salt
- p-methoxycinnamic acid isopropyl ester
- 2-phenylbenzimidazole sulfonic acid and salts (Neo Heliopan®Hydro)
- 3-(4'-trimethylammonium) benzylidene bornan-2-one methyl sulfate
- beta-imidazole-4(5)-acrylic acid (urocanic acid)
- 3-(4'-sulfo)benzylidene bornan-2-one and salts
- 3-(4'-methyl benzylidene)-D,L-camphor (Neo Heliopan®MBC)
- 3-benzylidene-D,L-camphor
- N-[(2 and 4)-[2-(oxoborn-3-ylidene) methyl]benzyl] acrylamide polymer
- 4,4'-[(6-[4-(1,1-dimethyl)aminocarbonyl) phenylamino]-1,3,5-triazine-2,4-diyl)diimino]-bis-(benzoic acid-2-ethylhexyl ester) (Uvasorb®HEB)
- benzylidene malonate polysiloxane (Parsol®SLX)
- glyceryl ethylhexanoate dimethoxycinnamate
- dipropylene glycol salicylate
- tris(2-ethylhexyl)-4,4',4''-(1,3,5-triazine-2,4,6-triyltriimino)tribenzoate (= 2,4,6-trianilino-(p-carbo-2'-ethylhexyl-1'-oxy)-1,3,5-triazine) (Uvinul®T150).

[0072] Broadband filters which are preferably combined with one or more compounds of formula (I) in a preparation according to the present invention are selected from the group consisting of

- 2-ethylhexyl-2-cyano-3,3-diphenyl acrylate (Neo Heliopan®303)
- ethyl-2-cyano-3,3'-diphenyl acrylate
- 2-hydroxy-4-methoxybenzophenone (Neo Heliopan®BB)
- 2-hydroxy-4-methoxybenzophenone-5-sulfonic acid
- dihydroxy-4-methoxybenzophenone

- 2,4-dihydroxybenzophenone
- tetrahydroxybenzophenone
- 2,2'-dihydroxy-4,4'-dimethoxybenzophenone
- 2-hydroxy-4-n-octoxybenzophenone
- 2-hydroxy-4-methoxy-4'-methyl benzophenone
- sodium hydroxymethoxybenzophenone sulfonate
- disodium-2,2'-dihydroxy-4,4'-dimethoxy-5,5'-disulfobenzophenone
- phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-6-(2-methyl-3(1,3,3,3-tetramethyl-1-(trimethylsilyl)oxy)disiloxyanyl) propyl) (Mexoryl®XL)
- 2,2'-methylene bis-(6-(2H-benzotriazol-2-yl)-4-1,1,3,3-tetramethylbutyl) phenol) (Tinosorb®M)
- 2,4-bis-[4-(2-ethylhexyloxy)-2-hydroxyphenyl]-1,3,5-triazine
- 2,4-bis-[{(4-(2-ethylhexyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine (Tinosorb®S)
- 2,4-bis-[{(4-(3-sulfonato)-2-hydroxypropyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine sodium salt
- 2,4-bis-[{(3-(2-propyloxy)-2-hydroxypropyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine
- 2,4-bis-[{4-(2-ethylhexyloxy)-2-hydroxy}phenyl]-6-[4-(2-methoxyethyl carbonyl) phenylamino]-1,3,5-triazine
- 2,4-bis-[{4-(3-(2-propyloxy)-2-hydroxypropyloxy)-2-hydroxy}phenyl]-6-[4-(2-ethylcarboxyl) phenylamino]-1,3,5-triazine
- 2,4-bis-[{4-(2-ethylhexyloxy)-2-hydroxy}phenyl]-6-(1-methylpyrrol-2-yl)-1,3,5-triazine
- 2,4-bis-[{4-tris-(trimethylsiloxysilylpropyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine
- 2,4-bis-[{4-(2''-methylpropenyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine
- 2,4-bis-[{4-(1',1',1',3',5',5',5'-heptamethylsiloxy-2''-methylpropyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine.

[0073] The compositions can comprise further typical detergent and cleansing composition ingredients such as UV-A filters filters which are preferably combined with one or more

compounds of formula (I) in a preparation according to the present invention are selected from the group consisting of

- 4-isopropyl dibenzoyl methane
- terephthalylidene dibornane sulfonic acid and salts (Mexoryl®SX)
- 4-t-butyl-4'-methoxydibenzoyl methane (avobenzone) / (Neo Heliopan®357)
- phenylene bis-benzimidazyl tetrasulfonic acid disodium salt (Neo Heliopan®AP)
- 2,2'-(1,4-phenylene)-bis-(1H-benzimidazole-4,6-disulfonic acid), monosodium salt
- 2-(4-diethylamino-2-hydroxybenzoyl) benzoic acid hexyl ester (Uvinul® A Plus)
- indanylidene compounds in accordance with DE 100 55 940 A1 (= WO 2002 038537 A1)

[0074] The compositions can comprise further typical detergent and cleansing composition ingredients such as UV filters which are more preferably combined with one or more compounds of formula (I) in a preparation according to the present invention are selected from the group consisting of

- p-aminobenzoic acid
- 3-(4'-trimethylammonium) benzylidene bornan-2-one methyl sulfate
- salicylic acid homomenthyl ester (Neo Heliopan®HMS)
- 2-hydroxy-4-methoxybenzophenone (Neo Heliopan®BB)
- 2-phenylbenzimidazole sulfonic acid (Neo Heliopan®Hydro)
- terephthalylidene dibornane sulfonic acid and salts (Mexoryl®SX)
- 4-tert-butyl-4'-methoxydibenzoyl methane (Neo Heliopan®357)
- 3-(4'-sulfo)benzylidene bornan-2-one and salts
- 2-ethylhexyl-2-cyano-3,3-diphenyl acrylate (Neo Heliopan®303)
- N-[(2 and 4)-[2-(oxoborn-3-ylidene) methyl]benzyl] acrylamide polymer
- p-methoxycinnamic acid-2-ethylhexyl ester (Neo Heliopan®AV)
- p-aminobenzoic acid ethyl ester (25 mol) ethoxylated (INCI name: PEG-25 PABA)
- p-methoxycinnamic acid isoamyl ester (Neo Heliopan®E1000)
- 2,4,6-trianilino-(p-carbo-2'-ethylhexyl-1'-oxy)-1,3,5-triazine (Uvinul®T150)
- phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-6-(2-methyl-3(1,3,3,3-tetramethyl-1-(trimethylsilyl)oxy)disiloxyanyl) propyl) (Mexoryl®XL)

- 4,4'-[(6-[4-(1,1-dimethyl)aminocarbonyl) phenylamino]-1,3,5-triazine-2,4-diyl)diimino]-bis-(benzoic acid-2-ethylhexyl ester) (Uvasorb HEB)
- 3-(4'-methyl benzylidene)-D,L-camphor (Neo Heliopan®MBC)
- 3-benzylidene camphor
- salicylic acid-2-ethylhexyl ester (Neo Heliopan®OS)
- 4-dimethylaminobenzoic acid-2-ethylhexyl ester (Padimate O)
- hydroxy-4-methoxybenzophenone-5-sulfonic acid and Na salt
- 2,2'-methylene bis-(6-(2H-benzotriazol-2-yl)-4-1,1,3,3-tetramethylbutyl) phenol) (Tinosorb®M)
- phenylene bis-benzimidazyl tetrasulfonic acid disodium salt (Neo Heliopan®AP)
- 2,4-bis-[{(4-(2-ethylhexyloxy)-2-hydroxy}phenyl]-6-(4-methoxyphenyl)-1,3,5-triazine (Tinosorb®S)
- benzylidene malonate polysiloxane (Parsol®SLX)
- menthyl anthranilate (Neo Heliopan®MA)
- 2-(4-diethylamino-2-hydroxybenzoyl) benzoic acid hexyl ester (Uvinul® A Plus)
- indanylidene compounds in accordance with DE 100 55 940 (= WO 02/38537).

[0075] Advantageous primary and also secondary sun protection factors are mentioned in **WO 2005 123101 A1**. Advantageously, these preparations contain at least one UVA filter and/or at least one UVB filter and/or at least one inorganic pigment. The preparations may be present here in various forms such as are conventionally used for sun protection preparations. Thus, they may be in form of a solution, an emulsion of the water-in-oil type (W/O) or of the oil-in-water type (O/W) or a multiple emulsion, for example of the water-in-oil-in-water type (W/O/W), a gel, a hydrodispersion, a solid stick or else an aerosol.

[0076] In a further preferred embodiment a formulation according to the invention contains a total amount of sunscreen agents, i.e. in particular UV filters and/or inorganic pigments (UV filtering pigments) so that the formulation according to the invention has a light protection factor of greater than or equal to 2 (preferably greater than or equal to 5). Such formulations according to the invention are particularly suitable for protecting the skin and hair.

SECONDARY SUN PROTECTION FACTORS

[0077] Besides the groups of primary sun protection factors mentioned above, secondary sun protection factors of the antioxidant type may also be used. Secondary sun protection factors of the antioxidant type interrupt the photochemical reaction chain which is initiated

when UV rays penetrate into the skin. Typical examples are amino acids (for example glycine, histidine, tyrosine, tryptophane) and derivatives thereof, imidazoles (for example urocanic acid) and derivatives thereof, peptides, such as D,L-carnosine, D-carnosine, L-carnosine and derivatives thereof (for example anserine), carotinoids, carotenes (for example alpha-carotene, beta-carotene, lycopene) and derivatives thereof, chlorogenic acid and derivatives thereof, liponic acid and derivatives thereof (for example dihydroliponic acid), aurothioglucose, propylthiouracil and other thiols (for example thioredoxine, glutathione, cysteine, cystine, cystamine and glycosyl, N-acetyl, methyl, ethyl, propyl, amyl, butyl and lauryl, palmitoyl, oleyl, alpha-linoleyl, cholesteryl and glyceryl esters thereof) and their salts, dilaurylthiodipropionate, distearylthiodipropionate, thiodipropionic acid and derivatives thereof (esters, ethers, peptides, lipids, nucleotides, nucleosides and salts) and sulfoximine compounds (for example butionine sulfoximines, homocysteine sulfoximine, butionine sulfones, penta-, hexa- and hepta-thionine sulfoximine) in very small compatible dosages, also (metal) chelators (for example alpha-hydroxyfatty acids, palmitic acid, phytic acid, lactoferrine), alpha-hydroxy acids (for example citric acid, lactic acid, malic acid), humic acid, bile acid, bile extracts, bilirubin, biliverdin, EDTA, EGTA and derivatives thereof, unsaturated fatty acids and derivatives thereof (for example linoleic acid, oleic acid), folic acid and derivatives thereof, ubiquinone and ubiquinol and derivatives thereof, vitamin C and derivatives thereof (for example ascorbyl palmitate, Mg ascorbyl phosphate, ascorbyl acetate), tocopherols and derivatives (for example vitamin E acetate), vitamin A and derivatives (vitamin A palmitate) and coniferyl benzoate of benzoin resin, rutinic acid and derivatives thereof, glycosyl rutin, ferulic acid, furfurylidene glucitol, carnosine, butyl hydroxytoluene, butyl hydroxyanisole, nordihydroguaiac resin acid, nordihydroguaiaretic acid, trihydroxybutyrophenone, uric acid and derivatives thereof, mannose and derivatives thereof, superoxide dismutase, titanium dioxide (for example dispersions in ethanol), zinc and derivatives thereof (for example ZnO, $ZnSO_4$), selenium and derivatives thereof (for example selenium methionine), stilbenes and derivatives thereof (for example stilbene oxide, trans-stilbene oxide) and derivatives of these active substances suitable for the purposes of the invention (salts, esters, ethers, sugars, nucleotides, nucleosides, peptides and lipids).

[0020] Advantageous inorganic secondary light protection factors are pigments, preferably inorganic pigments based on finely disperse metal oxides and/or other metal compounds which are insoluble or sparingly soluble in water, in particular the oxides of titanium (TiO_2), zinc (ZnO), iron (e.g. Fe_2O_3), zirconium (ZrO_2), silicon (SiO_2), manganese (e.g. MnO), aluminum ($A1_2O_3$), cerium (e.g. Ce_2O_3), mixed oxides of the corresponding metals, and mixtures of such oxides. These pigments are X-ray-amorphous or non-X-ray-amorphous. X-ray-amorphous oxide pigments are metal oxides or semi-metal oxides which reveal no or no recognizable crystalline structure in X-ray diffraction experiments. Such pigments are often obtainable by flame reaction, for example by reacting a metal or semi-metal halide with hydrogen and air (or pure oxygen) in a flame.

[0021] X-ray-amorphous oxide pigments are used as thickeners and thixotropic agents, flow

auxiliaries for emulsion and dispersion stabilization and as carrier substance (for example for increasing the volume of finely divided powders). X-ray-amorphous oxide pigments which are known and often used in cosmetic or dermatological galenics are, for example, high-purity silicon oxide. Preference is given to high-purity, X-ray-amorphous silicon dioxide pigments with a particle size in the range from 5 to 40 nm and an active surface area (BET) in the range from 50 to 400 m^2/g, preferably 150 to 300 m^2/g, where the particles are to be regarded as spherical particles of very uniform dimension. Macroscopically, the silicon dioxide pigments are recognizable as loose, white powders. Silicon dioxide pigments are sold commercially under the name Aerosil® (CAS-No. 7631-85-9) or Carb-O-Sil

[0022] Advantageous Aerosil® grades are, for example, Aerosil®0X50, Aerosil®130, Aerosil®150, Aerosil®200, Aerosil®300, Aerosil®380, Aerosil®MQX 80, Aerosil® MOX 170, Aerosil®COK 84, Aerosil® R 202, Aerosil®R 805, Aerosil®R 812, Aerosil®R 972, Aerosil®R 974, Aerosil®R976.

[0023] The compositions according to the present invention can comprise 0.1 to 20% by weight, advantageously 0.5 to 10% by weight, more preferably 1 to 5% by weight, basend on the total weight of the compositions, of X-ray-amorphous oxide pigments.

[0024] The non-X-ray-amorphous inorganic pigments are, according to the present invention, advantageously in hydrophobic form, i.e. have been surface-treated to repel water. This surface treatment may involve providing the pigments with a thin hydrophobic layer by processes known per se. Such a process involves, for example, producing the hydrophobic surface layer by a reaction according to

$$n\ TiO_2 + m\ (RO)_3Si\text{-}R' \rightarrow n\ TiO_2\ (surf.)$$

where n and m are stoichiometric parameters to be used as desired, and R and R' are the desired organic radicals. Hydrophobic pigments prepared analogously to DE-A 33 14 742, for example, are advantageous.

[0078] The total amount of inorganic pigments, in particular hydrophobic inorganic micro pigments, in the finished cosmetic, dermatological and pharmacological composition according to the invention can be advantageously chosen from the range from 0.1 to 30% by weight, preferably 0.1 to 10.0% by weight, preferably 0.5 to 6.0% by weight, based on the total weight of the compositions.

ANTIOXIDANTS

[0025] An additional content of antioxidants in the compositions of the present invention is generally preferred. According to the present invention, favorable antioxidants which can be used are all antioxidants customary or suitable for cosmetic, dermatological and pharmacological preparations. The antioxidants are advantageously chosen from the group of amino acids (e.g. glycine, histidine, tyrosine, tryptophan) and derivatives thereof, imidazoles (e.g. urocanic acid) and derivatives thereof, peptides, such as D,L-carnosine, D-carnosine,

L-carnosine and derivatives thereof (e.g. anserine), carotenoids, carotenes (e.g. α-carotene, β-carotene, lycopene) and derivatives thereof, chlorogenic acid and derivatives thereof, lipoic acid and derivatives thereof (e.g. dihydrolipoic acid), aurothioglucose, propylthiouracil and other thiols (e.g. thioredoxin, glutathione, cysteine, cystine, cystamine and the glycosyl, N-acetyl, methyl, ethyl, propyl, amyl, butyl and lauryl, palmitoyl, oleyl, γ-linoleyl, cholesteryl and glyceryl esters thereof) and salts thereof, dilauryl thiodipropionate, distearyl thiodipropionate, thiodipropionic acid and derivatives thereof (esters, ethers, peptides, lipids, nucleotides, nucleosides and salts), and sulfoximine compounds (e.g. buthionine sulfoximines, homocysteine sulfoximine, buthionine sulfones, penta-, hexa-, heptathionine sulfoximine) in very low tolerated doses (e.g. pmol to μmol/kg), and also (metal) chelating agents (e.g. α-hydroxy fatty acids, palmitic acid, phytic acid, lactoferrin), α-hydroxy acids (e.g. citric acid, lactic acid, maleic acid), humic acid, bile acid, bile extracts, bilirubin, biliverdin, EDTA, EGTA and derivatives thereof, unsaturated fatty acids and derivatives thereof (e.g. γ-linolenic acid, linoleic acid, oleic acid), folic acid and derivatives thereof, ubiquinone and ubiquinol and derivatives thereof, vitamin C and derivatives (e.g. ascorbyl palmitate, Mg ascorbyl phosphate, ascorbyl acetate), tocopherols and derivatives (e.g. vitamin E acetate), vitamin A and derivatives (vitamin A palmitate), and coniferyl benzoate of benzoin resin, rutinic acid and derivatives thereof, α-glycosylrutin, ferulic acid, furfurylideneglucitol, carnosine, butylhydroxy-toluene, butylhydroxyanisol, nordihydroguaiacic acid, nordihydroguaiaretic acid, trihydroxybutyrophenone, uric acid and derivatives thereof, mannose and derivatives thereof, zinc and derivatives thereof (e.g. ZnO, $ZnSO_4$), selenium and derivatives thereof (e.g. selenomethionine), stilbenes and derivatives thereof (e.g. stilbene oxide, trans-stilbene oxide) and the derivatives (salts, esters, ethers, sugars, nucleotides, nucleosides, peptides and lipids), derivatives of acetophenone such as Hydroxyacetophenone and its blends with Phenoxyethanol and/or, pentane 1,2 diol and/or hexane 1,2 diol and/or caprylyl 1,2 diol, are suitable according to the present invention.

[0026] The amount of the above-mentioned antioxidants (one or more compounds) in the composition is preferably 0.001 to 30% by weight, more preferably 0.05 to 20% by weight, and most preferably 1 to 10% by weight, based on the total weight of the composition.

VITAMINS

[0027] In a preferred embodiment the composition of the invention may advantageously also comprise vitamins and vitamin precursors, it being possible for all the vitamins and vitamin precursors which are suitable or usual for cosmetic and/or dermatological applications to be used. Those worth mentioning here are, in particular, vitamins and vitamin precursors, such as tocopherols, vitamin A, niacin acid and niacinamide, further vitamins of the B complex, in particular biotin, and vitamin C and panthenol and derivatives thereof, in particular the esters and ethers of panthenol, and cationically derivatized panthenols, such as panthenol triacetate, panthenol monoethyl ether and the monoacetate thereof and cationic

panthenol derivatives. If vitamin E and/or derivatives thereof represent the antioxidant(s), it is advantageous to choose their respective concentrations from the range from 0.001 to 10% by weight, based on the total weight of the composition. If vitamin A or vitamin A derivatives, or carotenes or derivatives thereof represent the antioxidant(s), it is advantageous to choose their respective concentrations from the range from 0.001 to 10% by weight, based on the total weight of the composition.

PLANT EXTRACTS

[0028] The compositions may also include plant extracts, which are conventionally prepared by extraction of the whole plant, but also in individual cases exclusively from blossom and/or leaves, wood, bark or roots of the plant. In respect of the plant extracts which can be used, reference is made in particular to the extracts which are listed in the table starting on page 44 of the 3rd edition of the Leitfaden zur Inhaltsstoffdeklaration kosmetischer Mittel [Manual of Declaration of the Constituents of Cosmetic Compositions], published by Industrieverband Körperpflegemittel und Waschmittel e.V. (IKW), Frankfurt. Extracts which are advantageous in particular are those from aloe, witch hazel, algae, oak bark, rose-bay willow-herb, stinging nettle, dead nettle, hops, chamomile, yarrow, arnica, calendula, burdock root, horsetail, hawthorn, linden blossom, almond, pine needle, horse chestnut, sandalwood, juniper, coconut, mango, apricot, orange, lemon, lime, grapefruit, apple, green tea, grapefruit pip, wheat, oats, barley, sage, thyme, wild thyme, rosemary, birch, mallow, lady's smock, willow bark, restharrow, coltsfoot, hibiscus, ginseng and ginger root.

[0029] In this context, the extracts from aloe vera, chamomile, algae, rosemary, calendula, ginseng, cucumber, sage, stinging nettle, linden blossom, arnica and witch hazel are particularly preferred. Mixtures of two or more plant extracts can also be employed. Extraction agents which can be used for the preparation of plant extracts mentioned are, inter alia, water, alcohols and mixtures thereof. In this context, among the alcohols lower alcohols, such as ethanol and isopropanol, but also polyhydric alcohols, such as ethylene glycol, propylene glycol and butylene glycol, are preferred, and in particular both as the sole extraction agent and in mixtures with water. The plant extracts can be employed both in pure and in diluted form.

SKIN LIGHTENING AGENTS

[0079] An additional content of skin lightening ingredients in the compositions according to the present invention is also possible. Such skin lightening ingredients which can be used are for example but not limited to the following : kojic acid (5-hydroxy-2-hydroxymethyl-4-pyranone), kojic acid derivatives such as for example kojic dipalmitate, arbutin, ascorbic acid, ascorbic acid derivatives, hydroquinone, hydroquinone derivatives, styryl resorcinol derivatives (e.g. 4-(1-phenylethyl)1,3-benzenediol), molecules containing sulphur, such as

glutathione or cysteine for example, alpha-hydroxy acids (e.g. citric acid, lactic acid, malic acid) and their derivatives, N-acetyltyrosine and derivatives, undecenoylphenylalanine, gluconic acid, chromone derivatives such as aloesin, flavonoids, thymol derivatives, 1-aminoethylphosphinic acid, thiourea derivatives, ellagic acid, nicotinamide, zinc salts such as zinc chloride or zinc gluconate for example, thujaplicin and derivatives, triterpenes such as maslic acid, sterols such as ergosterol, benzofuranones such as senkyunolide, vinyl- and ethylguaiacol, dionic acids such as octodecenedionic acid and azelaic acid, nitrogen oxide synthesis inhibitors such as L-nitroarginine and its derivatives, 2,7-dinitroindazole or thiocitrulline, metal chelators (e.g. alpha-hydroxy fatty acids, palmitic acid, phytic acid, lactoferrin, humic acid, gallic acid, bile extracts, bilirubin, biliverdin), retinoids, soja milk, soya extract, serine protease inhibitors or lipoic acid or other synthetic or natural active compounds for skin and hair lightening, these compounds also being used in the form of an extract from plants, such as bearberry extract, rice extract, papaya extract, liquorice root extract or constituents concentrated from these, such as glabridin or licochalcone A, Artocarpus extract, extract from Rumex and Ramulus species, extracts from pine species (Pinus) and extracts from Vitis species or stilbene derivatives concentrated from these, extract from saxifraga, mulberry, Scutelleria and/or grapes.

ACTIVES MODULATING HAIR PIGMENTATION

[0080] Preferred active ingredients for hair lightening are selected from the group consisting of: kojic acid (5-hydroxy-2-hydroxymethyl-4-pyranone), kojic acid derivatives, preferably kojic acid dipalmitate, arbutin, ascorbic acid, ascorbic acid derivatives, preferably magnesium ascorbyl phosphate, hydroquinone, hydroquinone derivatives, resorcinol, resorcinol derivatives, preferably 4-alkylresorcinols and 4-(1-phenylethyl)1,3-dihydroxybenzene (phenylethyl resorcinol), cyclohexylcarbamates (preferably one or more cyclohexyl carbamates disclosed in WO 2010/122178 and WO 2010/097480), sulfur-containing molecules, preferably glutathione or cysteine, alpha-hydroxy acids (preferably citric acid, lactic acid, malic acid), salts and esters thereof, N-acetyl tyrosine and derivatives, undecenoyl phenylalanine, gluconic acid, chromone derivatives, preferably aloesin, flavonoids, 1-aminoethyl phosphinic acid, thiourea derivatives, ellagic acid, nicotinamide (niacinamide), zinc salts, preferably zinc chloride or zinc gluconate, thujaplicin and derivatives, triterpenes, preferably maslinic acid, sterols, preferably ergosterol, benzofuranones, preferably senkyunolide, vinyl guiacol, ethyl guiacol, dionic acids, preferably octodecene dionic acid and/or azelaic acid, inhibitors of nitrogen oxide synthesis, preferably L-nitroarginine and derivatives thereof, 2,7-dinitroindazole or thiocitrulline, metal chelators (preferably alpha-hydroxy fatty acids, phytic acid, humic acid, bile acid, bile extracts, EDTA, EGTA and derivatives thereof), retinoids, soy milk and extract, serine protease inhibitors or lipoic acid or other synthetic or natural active ingredients for skin and hair lightening, the latter preferably used in the form of an extract from plants, preferably bearberry extract, rice extract, papaya extract, turmeric extract, mulberry extract, bengkoang extract, nutgrass extract, liquorice root extract or constituents

concentrated or isolated therefrom, preferably glabridin or licochalcone A, artocarpus extract, extract of rumex and ramulus species, extracts of pine species (pinus), extracts of vitis species or stilbene derivatives isolated or concentrated therefrom, saxifrage extract, scutellaria extract, grape extract and/or microalgae extract, in particular Tetraselmis suecica Extract.

[0081] Advantageous skin and hair tanning active ingredients in this respect are substrates or substrate analogues of tyrosinase such as L-tyrosine, N-acetyl tyrosine, L-DOPA or L-dihydroxyphenylalanine, xanthine alkaloids such as caffeine, theobromine and theophyl-line and derivatives thereof, proopiomelanocortin peptides such as ACTH, alpha-MSH, peptide analogues thereof and other substances which bind to the melanocortin receptor, peptides such as Val-Gly-Val-Ala-Pro-Gly, Lys-lle- Gly-Arg-Lys or Leu-lle-Gly-Lys, purines, pyrimidines, folic acid, copper salts such as copper gluconate, chloride or pyrrolidonate, 1,3,4-oxadiazole-2-thiols such as 5-pyrazin-2-yl-1,3,4-oxadiazole-2-thiol, curcumin, zinc diglycinate (Zn(Gly)2), manganese(ll) bicarbonate complexes ("pseudocat-alases") as described for example in EP 0 584 178, tetrasubstituted cyclohexene deriva-tives as described for example in WO 2005/032501 , isoprenoids as described in WO 2005/102252 and in WO 2006/010661 , melanin derivatives such as Melasyn-100 and MelanZe, diacyl glycerols, aliphatic or cyclic diols, psoralens, prostaglandins and ana-logues thereof, activators of adenylate cyclase and compounds which activate the transfer of melanosomes to keratinocytes such as serine proteases or agonists of the PAR-2 receptor, extracts of plants and plant parts of the chrysanthemum species, san-guisorba species, walnut extracts, urucum extracts, rhubarb extracts, microalgae extracts, in particular Isochrysis galbana, trehalose, erythru-lose and dihydroxyacetone. Flavonoids which bring about skin and hair tinting or brown-ing (e.g. quercetin, rhamnetin, kaempferol, fisetin, genistein, daidzein, chrysin and api-genin, epicatechin, diosmin and diosmetin, morin, quercitrin, naringenin, hesperidin, phloridzin and phloretin) can also be used.

[0082] The amount of the aforementioned examples of additional active ingredients for the modulation of skin and hair pigmentation (one or more compounds) in the products according to the invention is then preferably 0.00001 to 30 wt.%, preferably 0.0001 to 20 wt.%, particularly preferably 0.001 to 5 wt.%, based on the total weight of the preparation.

HAIR GROWTH ACTIVATORS OR INHIBITORS

[0083] Formulations and products according to the present invention may also comprise one or more hair growth activators, i.e. agents to stimulate hair growth. Hair growth activators are preferably selected from the group consisting of pyrimidine derivatives such as 2,4-diaminopyrimidine-3-oxide (Aminexil), 2,4-diamino-6-piperidinopyrimidine-3-oxide (Minoxidil) and derivatives thereof, 6-amino-1,2-dihydro-1-hydroxy-2-imino-4-piperidinopyrimidine and its derivatives, xanthine alkaloids such as caffeine, theobromine and theophylline and derivatives thereof, quercetin and derivatives, dihydroquercetin (taxifolin) and derivatives,

potassium channel openers, antiandrogenic agents, synthetic or natural 5-reductase inhibitors, nicotinic acid esters such as tocopheryl nicotinate, benzyl nicotinate and C1-C6 alkyl nicotinate, proteins such as for example the tripeptide Lys-Pro-Val, diphencypren, hormons, finasteride, dutasteride, flutamide, bicalutamide, pregnane derivatives, progesterone and its derivatives, cyproterone acetate, spironolactone and other diuretics, calcineurin inhibitors such as FK506 (Tacrolimus, Fujimycin) and its derivatives, Cyclosporin A and derivatives thereof, zinc and zinc salts, polyphenols, procyanidins, proanthocyanidins, phytosterols such as for example beta-sitosterol, biotin, eugenol, (±)-beta-citronellol, panthenol, glycogen for example from mussels, extracts from microorganisms, algae, plants and plant parts of for example the genera dandelion (Leontodon or Taraxacum), Orthosiphon, Vitex, Coffea, Paullinia, Theobroma, Asiasarum, Cucurbita or Styphnolobium, Serenoa repens (saw palmetto), Sophora flavescens, Pygeum africanum, Panicum miliaceum, Cimicifuga racemosa, Glycine max, Eugenia caryophyllata, Cotinus coggygria, Hibiscus rosa-sinensis, Camellia sinensis, Ilex paraguariensis, Isochrysis galbana, licorice, grape, apple, barley or hops or/nd hydrolysates from rice or wheat.

[0084] Alternatively, formulations and products according to the present invention may comprise one or more hair growth inhibitors (as described above), i.e. agents to reduce or prevent hair growth. Hair growth inhibitors are preferably selected from the group consisting of activin, activin derivatives or activin agonists, ornithine decarboxylase inhibitors such as alpha-difluoromethylornithine or pentacyclic triterpenes like for example ursolic acid, betulin, betulinic acid, oleanolic acid and derivatives thereof, 5alpha-reductase inhibitors, androgen receptor antagonists, S-adenosylmethionine decarboxylase inhibitors, gamma-glutamyl transpeptidase inhibitors, transglutaminase inhibitors, soybean-derived serine protease inhibitors, extracts from microorganisms, algae, different microalgae or plants and plant parts of for example the families Leguminosae, Solanaceae, Graminae, Asclepiadaceae or Cucurbitaceae, the genera Chondrus, Gloiopeltis, Ceramium, Durvillea, Glycine max, Sanguisorba officinalis, Calendula officinalis, Hamamelis virginiana, Arnica montana, Salix alba, Hypericum perforatum or Gymnema sylvestre.

PHYSIOLOGICAL COOLING AGENTS

[0085] The compositions may also contain one or more substances with a physiological cooling effect (cooling agents), which are preferably selected here from the following list: menthol and menthol derivatives (for example L-menthol, D-menthol, racemic menthol, isomenthol, neoisomenthol, neomenthol) menthylethers (for example (l-menthoxy)-1,2-propandiol, (l-menthoxy)-2-methyl-1,2-propandiol, l-menthyl-methylether), menthylesters (for example menthylformiate, menthylacetate, menthylisobutyrate, menthyllactates, L-menthyl-L-lactate, L-menthyl-D-lactate, menthyl-(2-methoxy)acetate, menthyl-(2-methoxyethoxy)acetate, menthylpyroglutamate), menthylcarbonates (for example menthylpropyleneglycolcarbonate, menthylethyleneglycolcarbonate, menthylglycerolcar-

bonate or mixtures thereof), the semi-esters of menthols with a dicarboxylic acid or derivatives thereof (for example mono-menthylsuccinate, mono-menthylglutarate, mono-menthylmalonate, O-menthyl succinic acid ester-N,N-(dimethyl)amide, O-menthyl succinic acid ester amide), menthanecarboxylic acid amides (in this case preferably menthanecarboxylic acid-N-ethylamide [WS3] or N^{α}-(menthanecarbonyl)glycinethylester [WS5], as described in **US 4,150,052**, menthanecarboxylic acid-N-(4-cyanophenyl)amide or menthanecarboxylic acid-N-(4-cyanomethylphenyl)amide as described in **WO 2005 049553 A1**, methanecarboxylic acid-N-(alkoxyalkyl)amides), menthone and menthone derivatives (for example L-menthone glycerol ketal), 2,3-dimethyl-2-(2-propyl)-butyric acid derivatives (for example 2,3-dimethyl-2-(2-propyl)-butyric acid-N-methylamide [WS23]), isopulegol or its esters (l-(-)-isopulegol, l-(-)-isopulegolacetate), menthane derivatives (for example p-menthane-3,8-diol), cubebol or synthetic or natural mixtures, containing cubebol, pyrrolidone derivatives of cycloalkyldione derivatives (for example 3-methyl-2(1-pyrrolidinyl)-2-cyclopentene-1-one) or tetrahydropyrimidine-2-one (for example iciline or related compounds, as described in WO 2004/026840), further carboxamides (for example N-(2-(pyridin-2-yl)ethyl)-3-p-menthanecarboxamide or related compounds), (1R,2S,5R)-N-(4-Methoxyphenyl)-5-methyl-2-(1-isopropyl)cyclohexane-carboxamide [WS12], oxamates (preferably those described in **EP 2033688 A2**).

ANTI-INFLAMMATORY AGENTS

[0020] The compositions may also comprise active anti-inflammatory and/or redness- and/or itching-alleviating compounds (anti-irritants). All the active anti-inflammatory or redness- and/or itching-alleviating compounds which are suitable or usual for cosmetic, dermatological and pharmacological compositions can be used here. Active anti-inflammatory and redness- and/or itching-alleviating compounds which are advantageously employed are steroidal anti-inflammatory substances of the corticosteroid type, such as hydrocortisone, dexamethasone, dexamethasone phosphate, methylprednisolone or cortisone, it being possible for the list to be extended by addition of further steroidal anti-inflammatories. Non-steroidal anti-inflammatories can also be employed. Those to be mentioned here by way of example are oxicams, such as piroxicam or tenoxicam; salicylates, such as aspirin, Disalcid, Solprin or fendosal; acetic acid derivatives, such as diclofenac, fenclofenac, indomethacin, sulindac, tolmetin, or clindanac; fenamates, such as mefenamic, meclofenamic, flufenamic or niflumic; propionic acid derivatives, such as ibuprofen, naproxen, benoxaprofen or pyrazoles, such as phenylbutazone, oxyphenylbutazone, febrazone or azapropazone.

[0021] Alternatively, natural anti-inflammatory or redness- and/or itching-alleviating substances can be employed. Plant extracts, specific highly active plant extract fractions and highly pure active substances isolated from plant extracts can be employed. Extracts, fractions and active substances from chamomile, aloe vera, Commiphora species, Rubia species,

willow, rose-bay willow-herb, oats, and also pure substances, such as, inter alia, bisabolol, apigenin 7-glucoside, boswellic acid, phytosterols, glycyrrhizic acid, glabridin or licochalcone A, are particularly preferred. The compositions of the present invention can also comprise mixtures of two or more active anti-inflammatory compounds. Bisabolol, boswellic acid, and also extracts and isolated highly pure active compounds from oats and Echinacea are particularly preferred for use in the context of the invention as anti-inflammatory and redness- and/or itching-alleviating substances, and alpha-bisabolol and extracts and isolated highly pure active compounds from oats are especially preferred.

[0086] Preferred anti-inflammatory agents may be selected from the group formed by:

(i) steroidal anti-inflammatory substances of the corticosteroid type, in particular hydrocortisone, hydrocortisone derivatives such as hydrocortisone 17-butyrate, dexamethasone, dexamethasone phosphate, methylprednisolone or cortisone,

(ii) non-steroidal anti-inflammatory substances, in particular oxicams such as piroxicam or tenoxicam, salicylates such as aspirin, disalcid, solprin or fendosal, acetic acid derivatives such as diclofenac, fenclofenac, indomethacin, sulindac, tolmetin or clindanac, fenamates such as mefenamic, meclofenamic, flufenamic or niflumic, propionic acid derivatives such as ibuprofen, naproxen or benoxaprofen, pyrazoles such as phenylbutazone, oxyphenylbutazone, febrazone or azapropazone,

(iii) natural or naturally occuring anti-inflammatory substances or substances that alleviate reddening and/or itching, in particular extracts or fractions from camomile, Aloe vera, Commiphora species, Rubia species, willow, willow-herb, oats, calendula, arnica, St John's wort, honeysuckle, rosemary, Passiflora incarnata, witch hazel, ginger or Echinacea, or single active compounds thereof,

(iv) histamine receptor antagonists, serine protease inhibitors (e.g. of Soy extracts), TRPV1 antagonists (e.g. 4-t-Butylcyclohexanol), NK1 antagonists (e.g. Aprepitant, Hydroxyphenyl Propamidobenzoic Acid), cannabinoid receptor agonists (e.g. Palmitoyl Ethanolamine) and TRPV3 antagonists.

[0022] The amount of anti-irritants (one or more compounds) in the composition is preferably 0.0001% to 20% by weight, with particular preference 0.0001% to 10% by weight, in particular 0.001% to 5% by weight, based on the total weight of the composition.

ANTI-MICROBIAL AGENTS

[0087] Suitable anti-microbial agents are, in principle, all substances effective against Gram-positive bacteria, such as, for example, 4- hydroxybenzoic acid and its salts and esters, N-(4-chlorophenyl)-N'-(3,4- dichlorophenyl)urea, 2,4,4'-trichloro-2'-hydroxy-diphenyl ether (triclosan), 4-chloro-3,5-dimethyl-phenol, 2,2'-methylenebis(6-bromo-4- chlorophenol), 3-methyl-4-(1-methylethyl)phenol, 2-benzyl-4-chloro-phenol, 3-(4-chlorophenoxy)-1,2-propanediol, 3-iodo-2-propynyl butylcarbamate, chlorhexidine, 3,4,4'-trichlorocarbanilide

(TTC), antibacterial fragrances, thymol, thyme oil, eugenol, oil of cloves, menthol, mint oil, farnesol, phenoxyethanol, glycerol monocaprate, glycerol monocaprylate, glycerol monolaurate (GML), diglycerol monocaprate (DMC), salicylic acid N-alkylamides, such as, for example, n-octylsalicylamide or n- decylsalicylamide.

ENZYME INHIBITORS

[0088] Suitable enzyme inhibitors are, for example, esterase inhibitors. These are preferably trialkyl citrates, such as trimethyl citrate, tripropyl citrate, triisopropyl citrate, tributyl citrate and, in particular, triethyl citrate (Hydagen CAT). The substances inhibit enzyme activity, thereby reducing the formation of odour. Other substances which are suitable esterase inhibitors are sterol sulfates or phosphates, such as, for example, lanosterol, cholesterol, campesterol, stigmasterol and sitosterol sulfate or phosphate, dicarboxylic acids and esters thereof, such as, for example, glutaric acid, monoethyl glutarate, diethyl glutarate, adipic acid, monoethyl adipate, diethyl adipate, malonic acid and diethyl malonate, hydroxycarboxylic acids and esters thereof, such as, for example, citric acid, malic acid, tartaric acid or diethyl tartrate, and zinc glycinate.

ODOUR ABSORBERS AND ANTIPERSPIRANT ACTIVE AGENTS

[0089] Suitable odour absorbers are substances which are able to absorb and largely retain odour-forming compounds. They lower the partial pressure of the individual components, thus also reducing their rate of diffusion. It is important that perfumes must remain unimpaired in this process. Odour absorbers are not effective against bacteria. They comprise, for example, as main constituent, a complex zinc salt of ricinoleic acid or specific, largely odour-neutral fragrances which are known to the person skilled in the art as "fixatives", such as, for example, extracts of labdanum or styrax or certain abietic acid derivatives. The odour masking agents are fragrances or perfume oils, which, in addition to their function as odour masking agents, give the deodorants their respective fragrance note. Perfume oils which may be mentioned are, for example, mixtures of natural and synthetic fragrances. Natural fragrances are extracts from flowers, stems and leaves, fruits, fruit peels, roots, woods, herbs and grasses, needles and branches, and resins and balsams. Also suitable are animal products, such as, for example, civet and castoreum. Typical synthetic fragrance compounds are products of the ester, ether, aldehyde, ketone, alcohol, and hydrocarbon type. Fragrance compounds of the ester type are, for example, benzyl acetate, p-tert-butylcyclohexyl acetate, linalyl acetate, phenylethyl acetate, linalyl benzoate, benzyl formate, allyl cyclohexylpropionate, styrallyl propionate and benzyl salicylate. The ethers include, for example, benzyl ethyl ether, and the aldehydes include, for example, the linear alkanals having 8 to 18 carbon atoms, citral, citronellal, citronellyloxyacetaldehyde, cyclamen aldehyde, hydroxycitronellal, lilial and bourgeonal, the ketones include, for example, the ionones and methyl cedryl ketone, the alcohols include anethole, citronellol, eugenol, isoeugenol, geraniol, linaool, phenylethyl alcohol and terpineol, and the hydrocarbons in-

clude mainly the terpenes and balsams. Preference is, however, given to using mixtures of different fragrances which together produce a pleasing fragrance note. Essential oils of relatively low volatility, which are mostly used as aroma components, are also suitable as perfume oils, e.g. sage oil, camomile oil, oil of cloves, melissa oil, mint oil, cinnamon leaf oil, linden flower oil, juniperberry oil, vetiver oil, olibanum oil, galbanum oil, labdanum oil and lavandin oil. Preference is given to using bergamot oil, dihydromyrcenol, lilial, lyral, citronellol, phenylethyl alcohol, α-hexylcinnamaldehyde, geraniol, benzylacetone, cyclamen aldehyde, linalool, boisambrene forte, ambroxan, indole, hedione, sandelice, lemon oil, mandarin oil, orange oil, allyl amyl glycolate, cyclovertal, lavandin oil, clary sage oil, β- damascone, geranium oil bourbon, cyclohexyl salicylate, Vertofix coeur, iso-E-super, Fixolide NP, evernyl, iraldein gamma, phenylacetic acid, geranyl acetate, benzyl acetate, rose oxide, romilat, irotyl and floramat alone or in mixtures.

[0090] Suitable astringent antiperspirant active ingredients are primarily salts of aluminium, zirconium or of zinc. Such suitable antihydrotic active ingredients are, for example, aluminium chloride, aluminium chlorohydrate, aluminium dichlorohydrate, aluminium sesquichlorohydrate and complex compounds thereof, e.g. with 1,2- propylene glycol, aluminium hydroxyallantoinate, aluminium chloride tartrate, aluminium zirconium trichlorohydrate, aluminium zirconium tetrachlorohydrate, aluminium zirconium pentachlorohydrate and complex compounds thereof, e.g. with amino acids, such as glycine.

FILM FORMERS AND ANTI-DANDRUFF AGENTS

[0091] Standard film formers are, for example, chitosan, microcrystalline chitosan, quaternized chitosan, polyvinyl pyrrolidone, vinyl pyrrolidone/vinyl acetate copolymers, polymers of the acrylic acid series, quaternary cellulose derivatives, collagen, hyaluronic acid and salts thereof and similar compounds.

[0092] Suitable antidandruff agents are Octopirox®/Pirocton Olamin (1-hydroxy-4-methyl-6-(2,4,4-trimethylpentyl)-2-(1H)-pyridinone monoethanolamine salt), Crinipan® AD (Climbazole), Ketoconazol (4-acetyl-1-{4-[2-(2,4-dichlorophenyl) r-2-(1H-imidazol-1-ylmethyl)-1,3-dioxylan-c-4-ylmethoxyphenyl}-piperazine, ketoconazole, elubiol, selenium disulfide, colloidal sulfur, sulfur polyethylene glycol sorbitan monooleate, sulfur ricinol polyethoxylate, sulfur tar distillate, salicylic acid (or in combination with hexachlorophene), undecylenic acid, monoethanolamide sulfosuccinate Na salt, Lamepon® UD (protein/undecylenic acid condensate), zinc pyrithione, aluminium pyrithione and magnesium pyrithione/dipyrithione magnesium sulfate, salicylic acid and mixtuzres thereof.

CARRIERS, HYDROTROPES ANS MOIST RETENTION REGULATORS

[0093] Preferred cosmetics carrier materials are solid or liquid at 25°C and 1013 mbar (including highly viscous substances) as for example glycerol, 1,2-propylene glycol, 1,2-

butylene glycol, 1,3-propylene glycol, 1,3-butylene glycol, ethanol, water and mixtures of two or more of said liquid carrier materials with water. Optionally, these preparations according to the invention may be produced using preservatives or solubilizers. Other preferred liquid carrier substances, which may be a component of a preparation according to the invention are selected from the group consisting of oils such as vegetable oil, neutral oil and mineral oil.

[0094] Preferred solid carrier materials, which may be a component of a preparation according to the invention are hydrocolloids, such as starches, degraded starches, chemically or physically modified starches, dextrins, (powdery) maltodextrins (preferably with a dextrose equivalent value of 5 to 25, preferably of 10 – 20), lactose, silicon dioxide, glucose, modified celluloses, gum arabic, ghatti gum, traganth, karaya, carrageenan, pullulan, curdlan, xanthan gum, gellan gum, guar flour, carob bean flour, alginates, agar, pectin and inulin and mixtures of two or more of these solids, in particular maltodextrins (preferably with a dextrose equivalent value of 15 – 20), lactose, silicon dioxide and/or glucose.

[0095] In addition, hydrotropes, for example ethanol, isopropyl alcohol or polyols, may be used to improve flow behaviour. Suitable polyols preferably contain 2 to 15 carbon atoms and at least two hydroxyl groups. The polyols may contain other functional groups, more especially amino groups, or may be modified with nitrogen. Typical examples are

- glycerol;
- alkylene glycols such as, for example, ethylene glycol, diethylene glycol, propylene glycol, butylene glycol, hexylene glycol and polyethylene glycols with an average molecular weight of 100 to 1000 Dalton;
- technical oligoglycerol mixtures with a degree of self-condensation of 1.5 to 10, such as for example technical diglycerol mixtures with a diglycerol content of 40 to 50% by weight;
- methylol compounds such as, in particular, trimethylol ethane, trimethylol propane, trimethylol butane, pentaerythritol and dipentaerythritol;
- lower alkyl glucosides, particularly those containing 1 to 8 carbon atoms in the alkyl group, for example methyl and butyl glucoside;
- sugar alcohols containing 5 to 12 carbon atoms, for example sorbitol or mannitol,
- sugars containing 5 to 12 carbon atoms, for example glucose or sucrose;
- amino sugars, for example glucamine;
- dialcoholamines, such as diethanolamine or 2-aminopropane-1,3-diol.

[0096] Preferred moist retention regulators encompass sodium lactate, urea, alcohols, sorbitol, glycerol, propylene glycol, aliphatic 1,2-diols with a C number of 5-10, collagen, elastin or hyaluronic acid, diacyl adipates, petrolatum, ectoin, urocanic acid, lecithin, panthenol,

phytantriol, lycopene, algae extract, ceramides, cholesterol, glycolipids, chitosan, chondroitin sulphate, polyamino acids and polyamino sugars, lanolin, lanolin esters, amino acids, alpha-hydroxy acids (e.g. citric acid, lactic acid, malic acid) and derivatives thereof, sugars (e.g. inositol), alpha-hydroxy fatty acids, phytosterols, triterpene acids, such as betulinic acid or ursolic acid, algae extracts.

PRESERVATIVES

[0097] Suitable preservatives Preservatives which are preferably chosen here are those such as benzoic acid, its esters and salts, propionic acid and its salts, salicylic acid and its salts, 2,4-hexadienoic acid (sorbic acid) and its salts, formaldehyde and paraformaldehyde, 2-hydroxybiphenyl ether and its salts, 2-zincsulphidopyridine N-oxide, inorganic sulphites and bisulphites, sodium iodate, chlorobutanolum, 4-ethylmercuryl(II)-5-amino-1,3-bis(2-hydroxybenzoic acid), its salts and esters, dehydracetic acid, formic acid, 1,6-bis(4-amidino-2-bromophenoxy)-n-hexane and its salts, the sodium salt of ethylmercury(II)-thiosalicylic acid, phenylmercury and its salts, 10-undecylenic acid and its salts, 5-amino-1,3-bis(2-ethylhexyl)-5-methyl-hexahydropyrimidine, 5-bromo-5-nitro-1,3-dioxane, 2-bromo-2-nitro-1,3-propanediol, 2,4-dichlorobenzyl alcohol, N-(4-chlorophenyl)-N'-(3,4-dichlorophenyl)urea, 4-chloro-m-cresol, 2,4,4'-trichloro-2'-hydroxydiphenyl ether, 4-chloro-3,5-dimethylphenol, 1,1'-methylene-bis(3-(1-hydroxymethyl-2,4-dioximidazolidin-5-yl)urea), poly(hexamethylene diguanide) hydrochloride, 2-phenoxyethanol, hexamethylenetetramine, 1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride, 1-(4-chlorophenoxy)-1-(1H-imidazol-1-yl)-3,3-dimethyl-2-butanone, 1,3-bis-(hydroxymethyl)-5,5-dimethyl-2,4-imidazolidinedione, benzyl alcohol, octopirox, 1,2-dibromo-2,4-dicyanobutane, 2,2'-methylenebis(6-bromo-4-chlorophenol), bromochlorophene, mixture of 5-chloro-2-methyl-3(2H)-isothiazolinone and 2-methyl-3(2H)isothiazolinone with magnesium chloride and magnesium nitrate, 2-benzyl-4-chlorophenol, 2-chloroacetamide, chlorhexidine, chlorhexidine acetate, chlorhexidine gluconate, chlorhexidine hydrochloride, 1-phenoxypropan-2-ol, N-alkyl(C_{12}-C_{22})trimethylammonium bromide and chloride, 4,4-dimethyl-1,3-oxazolidine, N-hydroxymethyl-N-(1,3-di(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-N'-hydroxymethylurea, 1,6-bis(4-amidinophenoxy)-n-hexane and its salts, glutaraldehyde, 5-ethyl-1-aza-3,7-dioxabicyclo[3.3.0]octane, 3-(4-chlorophenoxy)-1,2-propanediol, hyamines, alkyl-(C_8-C_{18})-dimethylbenzylammonium chloride, alkyl-(C_8-C_{18})-dimethylbenzylammonium bromide, alkyl-(C_8-C_{18})-dimethylbenzyl-ammonium saccharinate, benzyl hemiformal, 3-iodo-2-propynyl butylcarbamate, sodium hydroxymethylaminoacetate or sodium hydroxymethylaminoacetate.

[0098] In various cases it may also be advantageous to employ substances which are chiefly employed for inhibition of the growth of undesirable microorganisms on or in animal organisms in compositions of the invention. In this respect, in addition to conventional preservatives, further active compounds which are worth mentioning, in addition to the large group

of conventional antibiotics, are, in particular, the products relevant for cosmetics, such as triclosan, climbazol, octoxyglycerol, octopirox (1-hydroxy-4-methyl-6-(2,4,4-trimethylpentyl)-2(1H)-pyridone, 2-aminoethanol), chitosan, farnesol, glycerol monolaurate or combinations of the substances mentioned, which are employed, inter alia, against underarm odour, foot odour or dandruff formation. Also ingredients which have multifunctional properties including the ability to reduce the growth of bacteria, yeast and molds may be employed to compositions covered by the invention. These may include, but are not restricted to pentane 1,2-diol, hexane 1,2-diol, caprylyl 1,2-diol, decyl 1,2-diol, tropolone, hydroxyacetophenone, ethylhexyl glycerin, phenoxyethanol either as individual ingredients or a mixtures of 2 or more of these.

[0099] Furthermore, the compositions of the invention may also comprise substances having a cooling action. Individual active cooling compounds which are preferred for use in the context of the present invention are listed below. The skilled person is able to supplement the following list with a large number of further active cooling compounds; the active cooling compounds listed can also be employed in combination with one another: l-menthol, d-menthol, racemic menthol, menthone glycerol acetal (trade name: Frescolat®MGA), menthyl lactate (trade name: Frescolat®ML, menthyl lactate is preferably l-menthyl lactate, in particular l-menthyl l-lactate), menthyl ethylamido oxalate (Frescolat® X-Cool), substituted menthyl-3-carboxylic acid amides (e.g. menthyl-3-carboxylic acid N-ethylamide), 2-isopropyl-N-2,3-trimethylbutanamide, substituted cyclohexanecarboxylic acid amides, 3-menthoxypropane-1,2-diol, 2-hydroxyethyl menthyl carbonate, 2-hydroxypropyl menthyl carbonate, N-acetylglycine menthyl ester, isopulegol, menthyl hydroxycarboxylic acid esters (e.g. menthyl 3-hydroxybutyrate), monomenthyl succinate, 2-mercaptocyclodecanone, menthyl 2-pyrrolidin-5-onecarboxylate, 2,3-dihydroxy-p-menthane, 3,3,5-trimethylcyclohexanone glycerol ketal, 3-menthyl 3,6-di- and -trioxaalkanoates, 3-menthyl methoxyacetate, icilin.

[00100] In a particular preferred embodiment the compositions may comprise preservatives chosen from 4-hydroxyacetophenone, o-cymen-5-ol or mixtures thereof.

PERFUME OILS AND FRAGRANCES

[00101] Suitable perfume oils are mixtures of natural and synthetic perfumes. Natural perfumes include the extracts of blossoms (lily, lavender, rose, jasmine, neroli, ylang-ylang), stems and leaves (geranium, patchouli, petitgrain), fruits (anise, coriander, caraway, juniper), fruit peel (bergamot, lemon, orange), roots (nutmeg, angelica, celery, cardamom, costus, iris, calmus), woods (pinewood, sandalwood, guaiac wood, cedarwood, rosewood), herbs and grasses (tarragon, lemon grass, sage, thyme), needles and branches (spruce, fir, pine, dwarf pine), resins and balsams (galbanum, elemi, benzoin, myrrh, olibanum, opoponax). Animal raw materials, for example civet and beaver, may also be used. Typical synthetic perfume compounds are products of the ester, ether, aldehyde, ketone, alcohol

and hydrocarbon type. Examples of perfume compounds of the ester type are benzyl acetate, phenoxyethyl isobutyrate, p-tert.butyl cyclohexylacetate, linalyl acetate, dimethyl benzyl carbinyl acetate, phenyl ethyl acetate, linalyl benzoate, benzyl formate, ethylmethyl phenyl glycinate, allyl cyclohexyl propionate, styrallyl propionate and benzyl salicylate. Ethers include, for example, benzyl ethyl ether while aldehydes include, for example, the linear alkanals containing 8 to 18 carbon atoms, citral, citronellal, citronellyloxyacetaldehyde, cyclamen aldehyde, hydroxycitronellal, lilial and bourgeonal. Examples of suitable ketones are the ionones, ▪-isomethylionone and methyl cedryl ketone. Suitable alcohols are anethol, citronellol, eugenol, isoeugenol, geraniol, linalool, phenylethyl alcohol and terpineol. The hydrocarbons mainly include the terpenes and balsams. However, it is preferred to use mixtures of different perfume compounds which, together, produce an agreeable perfume. Other suitable perfume oils are essential oils of relatively low volatility which are mostly used as aroma components. Examples are sage oil, camomile oil, clove oil, melissa oil, mint oil, cinnamon leaf oil, lime-blossom oil, juniper berry oil, vetiver oil, olibanum oil, galbanum oil, ladanum oil and lavendin oil. The following are preferably used either individually or in the form of mixtures: bergamot oil, dihydromyrcenol, lilial, lyral, citronellol, phenylethyl alcohol, hexylcinnamaldehyde, geraniol, benzyl acetone, cyclamen aldehyde, linalool, Boisambrene Forte, Ambroxan, indole, hedione, sandelice, citrus oil, mandarin oil, orange oil, allylamyl glycolate, cyclovertal, lavendin oil, clary oil, damascone, geranium oil bourbon, cyclohexyl salicylate, Vertofix Coeur, Iso-E-Super, Fixolide NP, evernyl, iraldein gamma, phenylacetic acid, geranyl acetate, benzyl acetate, rose oxide, romillat, irotyl and floramat.

DYES

[00102] Suitable dyes are any of the substances suitable and approved for cosmetic purposes as listed, for example, in the publication **"Kosmetische Färbemittel"** of the Farbstoffkommission der Deutschen Forschungsgemeinschaft**, Verlag Chemie, Weinheim, 1984, pages 81 to 106.** Examples include cochineal red A (C.I. 16255), patent blue V (C.I. 42051), indigotin (C.I. 73015), chlorophyllin (C.I. 75810), quinoline yellow (C.I. 47005), titanium dioxide (C.I. 77891), indanthrene blue RS (C.I. 69800) and madder lake (C.I. 58000). Luminol may also be present as a luminescent dye. Advantageous coloured pigments are for example titanium dioxide, mica, iron oxides (e.g. Fe_2O_3 Fe_3O_4, FeO(OH)) and/or tin oxide. Advantageous dyes are for example carmine, Berlin blue, chromium oxide green, ultramarine blue and/or manganese violet.

PREPARATIONS

[00103] Preferred compositions according to the present inventions are selected from the group of products for treatment, protecting, care and cleansing of the skin and/or hair or as a make-up product, preferably as a leave-on product (meaning that the one or more com-

pounds of formula (I) stay on the skin and/or hair for a longer period of time, compared to rinse-off products, so that the moisturizing and/or anti-ageing and/or wound healing promoting action thereof is more pronounced).

[00104] The formulations according to the invention are preferably in the form of an emulsion, e.g. W/O (water-in-oil), O/W (oil-in-water), W/O/W (water-in-oil-in-water), O/W/O (oil-in-water-in-oil) emulsion, PIT emulsion, Pickering emulsion, emulsion with a low oil content, micro- or nanoemulsion, a solution, e.g. in oil (fatty oils or fatty acid esters, in particular C_6-C_{32} fatty acid C_2-C_{30} esters) or silicone oil, dispersion, suspension, creme, lotion or milk, depending on the production method and ingredients, a gel (including hydrogel, hydrodispersion gel, oleogel), spray (e.g. pump spray or spray with propellant) or a foam or an impregnating solution for cosmetic wipes, a detergent, e.g. soap, synthetic detergent, liquid washing, shower and bath preparation, bath product (capsule, oil, tablet, salt, bath salt, soap, etc.), effervescent preparation, a skin care product such as e.g. an emulsion (as described above), ointment, paste, gel (as described above), oil, balsam, serum, powder (e.g. face powder, body powder), a mask, a pencil, stick, roll-on, pump, aerosol (foaming, non-foaming or post-foaming), a deodorant and/or antiperspirant, mouthwash and mouth rinse, a foot care product (including keratolytic, deodorant), an insect repellent, a sunscreen, aftersun preparation, a shaving product, aftershave balm, pre- and aftershave lotion, a depilatory agent, a hair care product such as e.g. shampoo (including 2-in-1 shampoo, anti-dandruff shampoo, baby shampoo, shampoo for dry scalps, concentrated shampoo), conditioner, hair tonic, hair water, hair rinse, styling creme, pomade, perm and setting lotion, hair spray, styling aid (e.g. gel or wax), hair smoothing agent (detangling agent, relaxer), hair dye such as e.g. temporary direct-dyeing hair dye, semi-permanent hair dye, permanent hair dye, hair conditioner, hair mousse, eye care product, make-up, make-up remover or baby product.

[00105] The formulations according to the invention are particularly preferably in the form of an emulsion, in particular in the form of a W/O, O/W, W/O/W, O/W/O emulsion, PIT emulsion, Pickering emulsion, emulsion with a low oil content, micro- or nanoemulsion, a gel (including hydrogel, hydrodispersion gel, oleogel), a solution e.g. in oil (fatty oils or fatty acid esters, in particular C_6-C_{32} fatty acid C_2-C_{30} esters)) or silicone oil, or a spray (e.g. pump spray or spray with propellant).

[00106] Auxiliary substances and additives can be included in quantities of 5 to 99 % b.w., preferably 10 to 80 % b.w., based on the total weight of the formulation. The amounts of cosmetic or dermatological auxiliary agents and additives and perfume to be used in each case can easily be determined by the person skilled in the art by simple trial and error, depending on the nature of the particular product.

[00107] The preparations can also contain water in a quantity of up to 99 % b.w., preferably 5 to 80 % b.w., based on the total weight of the preparation.

INDUSTRIAL APPLICATION

[00108] Another object of the present invention refers to a method of conditioning human skin and/or hair encompassing the following step, namely applying the plant peptide fraction or the cosmetic composition including said plant peptide fraction to human skin or hair.

[00109] Also encompassed by the present invention is the use of the plant peptide fraction for hair care applications.

[00110] As far as preferred ranges, combinations, mixtures and the like are disclosed infra, these preferred embodiments also apply to the method and the use as claimed here under.

EXAMPLES

Manufacturing Example M1 for Hydromoist L

Seed of *Lupinus angustifolia* was dehulled and milled in a conventional ball mill. The milled seeds were extracted twice with water at a temperature of 70 °C. After precipitation of the solids the supernated phase was separated-off by centrifugation. The residue was suspended in water and subjected to hydrolysis at 31°C for 2 hours in the presence of pepsin as the potease. The hydrolysate was passed over to a nanofiltration unit using a spiral would membrane having an average pore size of 2.000 Dalton. Filtration was conducted at 22 °C. While the retentate was refused, the desired lupine peptide fraction was obtained as permeate in the form of as a yellowish liquid. The product was adjusted to a peptide content of 2.0 wt.-percent and preserved by adding 0.8 wt.-percent Symdiol® 68 and 0.3 wt.-percent sodium benzoate. Finally, the solution was filtrated before packaging.

Example 1

Tensile properties

[00111] The so-called "Tensile Test" refers to a method which measures different linear mechanical properties of the hair fiber. The following parameters are measured:

- Elastic Module: measure of the stiffness of a material. The higher is elastic module, the higher is its stiffness.
- Break extension: maximum extension achieved at breaking point.
- Stress at 15% strain: measure of the necessary mechanical tension to deform hair fiber in 15%.
- Break Stress: measure of the necessary mechanical tension to lead the hair fiber to breakage.

[00112] Protocol:

- 3 Caucasian bleached hair tresses (5 g, 20 cm) were previously cleaned with SLES 10% solution for 1 minute.
- Test products were applied 1, 10 and 20 times in each tress (0.5 mL of product + massaging for 1 minute, followed by 1 minute of rinsing at running water at 33 °C, ± 3°C).
- Tresses were left at controlled environment (22°C, ± 2°C; 50% RH, ± 5%) overnight for drying.
- 45 fibers from each treatment were collected randomly. They were fixed in metalic crimps one by one.
- Diameter measurements were executed;

- Comparisons among the treatments were performed, using T-Student Test, considering 95% confidence interval.

The results are shown in Table 1:

Table 1
Tensile properties

	Hydromoist L	Placebo
Breaking stress (gmf/sq micrpn)	0.0185	0.0178

[00113] The results proof that lupine peptide fractions according to the present invention improve beak stress of human hair compared against a placebo by 4 %. The results are further illustrated by Figures 1 and 2. **Figure 1** shows SEM analysis for Caucasian hair that was bleached one time. The left column shows the results for untreated hair, the middle column for Hydromoist L and the right column for a control. **Figure 2** provides the results for Caucasian hair that was bleached three times.

Example 2

Fluorescence microscopy

[00114] Penetration of Hydromoist L into keratin fibers was determined by fluorescence microscopy according to the following method: Rhodamine B is a cationic fluorescent dye and presents affinity with damaged regions of the hair. It reacts with the negative sites of damaged hair. A fluorescent complex is formed in the hair fiber and can be detected when exposed to a fluorescence microscope. After capturing images in the microscope, the intensity of luminance in the images is quantified by image analysis. The parameter measured is luminance intensity as expression of damage. A treatment that generates images less fluorescents expresses the effect of penetration of the formulation.

[00115] Protocol:

- 3 Caucasian bleached hair tresses (2,5 g, 20 cm) were previously cleaned with SLES 10% solution for 1 minute.
- Test products were applied 1, 10 and 20 times in each tress (0.25 mL of product + massaging for 1 minute, followed by 1 minute of rinsing at running water at 30 °C. Leave on was not rinsed).
- Tresses were left at controlled environment (22 °C, ± 2 °C; 50% RH, ± 5%) overnight for drying.

- Some hair fibers from each treatment were soaked in Rhodamine B solution (10 µg/mL) for 45 minutes, followed by rinsing with deionized water for 1 minute and drying at 45 ºC for 15 minutes.
- The hair fibers were embedded in an acrylic resin. Sectional 10 µm cuts were made using a microtome.
- Fluorescence microscopy analysis was performed, followed by image analysis of the captured pictures to measure the fluorescence intensity as expression of the level of damage.
- Comparisons among the treatments were performed, using T-Student Test, considering 95% confidence interval.

[00116] The results are shown in **Table 2**. Hydromoist L was applied in a shampoo/conditioner blend (1:1) compared to a placebo:

Table 2

Penetration into keratin fibers

	Hydromoist L	**Placebo**
Intensity of fluorescence as expression of damage (Ium)	18.7	22.1

The results show that compared to the placebo Hydromoist L shows a 15 % higher penetration rate.

FORMULATION EXAMPLES

Table I
Shampoo (Amounts in % b.w.)

Ingredients	Amount
Sodium lauryl ether sulfate (e.g. Texapon NSO)	12
Cocamidopropyl betaine (e.g. Dehyton K)	2
Sodium chloride	1.4
Citric acid	1.3
Perfume oil	0.3
Phenoxyethanol	0.5
Hydromoist L	1.0
Water	Ad 100

Table II
2-in-1 Shampoo (Amounts in % b.w.)

Ingredients	INCI Name	Amount
Deionized water	Water	Ad 100
Plantacare PS 10	Sodium Laureth Sulfate. Lauryl Glucoside	20.0
Euperlan PK 771	Glycol Distearate. Sodium Lauryl Sulfate. Cocamide MEA. Laureth-10	6.0
Sodium chloride	Sodium Chloride	1.4
Citric acid monohydrate crystalline	Citric acid	0.1
Perfume oil	Fragrance	0.5
Dragocid Liquid	Phenoxyethanol, Parabens	0.5
Hydromoist L		0.5

Table III
Anti-dandruff Shampoo (Amounts in % b.w.)

Ingredients	Amount
Climbazole	0.50
Sodium Laureth Sulfate	37.00
Cocamidopropyl Betaine	8.00
PEG-6 Caprylic/Capric Glycerides	2.50
Laureth-2	2.00
Water (Aqua). Glycerol. Thymus Vulgaris (Thyme). Flower/Leaf Extract	0.50
Rosmarinus Officinalis (Rosemary) Leaf Water. Water (Aqua). Butylene Glycol. Pentylene Glycol	0.50
Bisabolol	0.10
Panthenol	0.50
Polyquaternium-10	0.40
Perfume oil	0.50
Phenoxyethanol	0.70
Hydromoist L	0.50
Water (Aqua)	Ad 100

Table IV
Hair conditioner with Crinipan. rinse-off (Amounts in % b.w.)

Ingredients	INCI Name	Amount
Lanette® O	Cetearyl Alcohol	4.00
Dragoxat 89	Ethylhexyl Isononanoate	2.00
Genamin® KDM-P	Behentrimonium Chloride	1.00
SF 1550	Phenyl Trimethicone	0.10
Neo Heliopan® BB	Benzophenone-3	0.10
Crinipan® AD	Climbazole	0.80
Glycerol 99.5 P.	Glycerol	6.00
Water	Water (Aqua)	Ad 100
Actipone® Alpha Pulp	Water (Aqua). Butylene Glycol. Malic Acid. Actinidia Chinensis (Kiwi)Fruit Juice. Citrus. Aurantium Dulcis (Orange). Juice. Citrus Paradisi (Grapefruit) Juice. Pyrus Malus (Apple) Juice. Trideceth-9. PrunusAmygdalus Dulcis Seed Extract	0.50
Extrapone® Bamboo P	Propylene Glycol. Water (Aqua). Butylene Glycol. Bambusa Vulgaris Shoot Extract	0.50
Sodium Hydroxide 10% solution	Sodium Hydroxide	0.40
Colour I	Colour	0.60
Colour II	Colour	0.30
Perfume oil	Fragrance	0.40
SymSave® H	4-Hydroxyacetophenone	0.20
Hydromoist L		0.5

Table V
Sprayable hair conditioner with zinc pyrithrione. leave-on (Amounts in % b.w.)

Ingredients	INCI Name	Amount
Monomuls 60-35 C	Hydrogenated Palm Glycerides	1.70
Cetiol OE	Dicaprylyl Ether	7.20
Abil 100	Dimethicone	3.60
Dehyquart F 75	Distearoylethyl Hydroxyethylmonium. Methosulfate. Cetearyl Alcohol	4.00
Eumulgin B1	Ceteareth-12	3.50
Cetiol S	Diethylhexylcyclohe xane	7.20
D-Panthenol	Panthenol	0.10
Glycerol 99.5 P.	Glycerol	1.50
Water	Water (Aqua)	Ad 100
Actipone® Rosemary	Water (Aqua). Propylene. Glycol. Rosmarinus Officinalis. (Rosemary) Leaf Extract	0.10
Frescolat® ML Cryst.	Menthyl Lactate	0.50
Dragosantol100	Bisabolol	0.10
Zinc Omadine	Zinc pyrithione	0.10
Perfume oil	Fragrance	0.40
SymSave® H	4-Hydroxyacetophenone	0.30
Hydromoist L		1.00

Table VI
Hair conditioner with UV protection (Amounts in % b.w.)

Ingredients	I NCI Name	Amount
Renex PEG 6000	PEG-150	2.50
Hair Conditioner Base	Cetyl alcohol. behentrimonium chloride. Triticum Vulgare (Wheat) bran extract. linoleic acid	3.00
PCL-Solid	Stearyl heptanoate. stearyl caprylate	0.50
Dow Corning 5200	Laurylmethicone copolyol	0.50
Natrosol 250 HR	Hydroxyethylcellulose	0.50
Benzophenone-4	Benzophenone-4	1.00
Neo Heliopan AP	Disodiumphenyldibenz-imidazole tetrasulphonate	1.00
Amino methyl propanol	Amino methyl propanol	2.00
Dow Corning 949 cationic emulsion	Amodimethicone. cetrimonium chloride. trideceth-12	2.00
Perfume oil	Fragrance	0.80
1.2-hexanediol	1.2-hexanediol	0.50
Hydromoist L		1.00
Water	Water (Aqua)	Ad 100

WHAT CLAIMED IS

1. A plant peptide fraction, obtainable or obtained according to the following steps:
   (a) providing lupine seeds;
   (b) dehulling and milling said lupine seeds;
   (c) subjecting the seeds of step (b) to an extraction to obtain a first peptide fraction;
   (d) subjecting the first peptide fraction of step (c) to enzymatic hydrolysis;
   (e) subjecting the hydrolyzed peptide fraction of step (d) to ultra- or nanofiltration to obtain a retentate and a permeate, said permeate enriched in peptides showing a molecular weight below 2,000 Dalton; and
   (f) optionally drying the permeate of step (e).
2. The peptide fraction of Claim 1 being substantially free of gluten.
3. The peptide fraction of Claim 1 representing an aqueous solution comprising said plant peptides in an amount of from about 1 to about 5 wt.-%.
4. A process for obtaining a plant peptide fraction, encompassing or consisting of the following steps:
   (a) providing lupine seeds;
   (b) dehulling and milling said lupine seeds;
   (c) subjecting the seeds of step (b) to an extraction to obtain a first peptide fraction;
   (d) subjecting the first peptide fraction of step (c) to enzymatic hydrolysis;
   (e) subjecting the hydrolyzed peptide fraction of step (d) to ultra- or nanofiltration to obtain a retentate and a permeate, said permeate enriched in peptide s showing a molecular weight below 2,000 Dalton; and
   (f) optionally drying the permeate of step (e).
5. The process of Claim 4, wherein said extraction is conducted using a solvent selected from the group consisting of water, methanol, ethanol, ethyl acetate and water-containing mixtures thereof.
6. The process of Claim 4, wherein said hydrolysis is conducted using an enzyme selected from the group consisting of pepsin, chymosin, cathepsin, papain and mixtures thereof.
7. The process of Claim 4, wherein said ultrafiltration is conducted using a membrane with an average pore diameter of 100 to 5.000 Dalton.

8. The process of Claim 4, wherein said ultra- or nanofiltration is conducted at a temperature of from about 10 to about 60 °C.

9. A cosmetic composition comprising the plant peptide fraction of Claim 1.

10. The cosmetic composition of Claim 9 representing a hair care or a skin care composition.

11. The composition of Claim 9 further comprising at least one additive selected from the group consisting of antidandruff agents, irritation-preventing agents, irritation-inhibiting agents, antioxidants, adstringents, perspiration-inhibiting agents, antiseptic agents, ant-statics, binders, buffers, carrier materials, chelating agents, cell stimulants, cleansing agents, care agents, deodorizing agents, antiperspirants, softeners, emulsifiers, enzymes, essential oils, fibres, film-forming agents, fixatives, foam-forming agents, foam stabilizers, substances for preventing foaming, foam boosters, gelling agents, gel-forming agents, hair care agents, hair-setting agents, hair-straightening agents, moisture-donating agents, moisturizing substances, moisture-retaining substances, bleaching agents, strengthening agents, stain-removing agents, optically brightening agents, impregnating agents, dirt-repellent agents, friction-reducing agents, lubricants, moisturizing creams, ointments, opacifying agents, plasticizing agents, covering agents, polish, gloss agents, polymers, powders, proteins, re-oiling agents, abrading agents, silicones, hair promotion agents, cooling agents, skin-cooling agents, warming agents, skin-warming agents, stabilizers, UV-absorbing agents, UV filters, detergents, thickeners, vitamins, oils, waxes, fats, phospholipids, saturated fatty acids, mono- or polyunsaturated fatty acids, α-hydroxy acids, polyhydroxyfatty acids, liquefiers, dyestuffs, colour-protecting agents, pigments, odoriferous substances, polyols, surfactants, electrolytes, organic solvents or silicone derivatives.

12. The composition of Claim 9 comprising:

(a) about 0.1 to about 5 wt.-% plant peptide s according to Claim 1

(b) about 0.5 to about 15 wt.-% emulsifiers;

(c) about 2 to about 60 wt.-% oil components;

(d) about 0.1 to about 20 wt.-% further additives

on condition that all amounts – optionally together with water – add to 100 wt.-%

13. The composition of Claim 9 being substantially free of paraben preservatives.

14. A method of conditioning human skin and/or hair encompassing the following step:

Applying the plant peptide fraction of Claim 1 or the cosmetic composition of Claim 9 to human skin or hair.

15. The use of the plant peptide fraction of Claim 1 or the plant peptide fraction obtained according to the process of Claim 4 for hair care applications.

DRAWINGS (2)

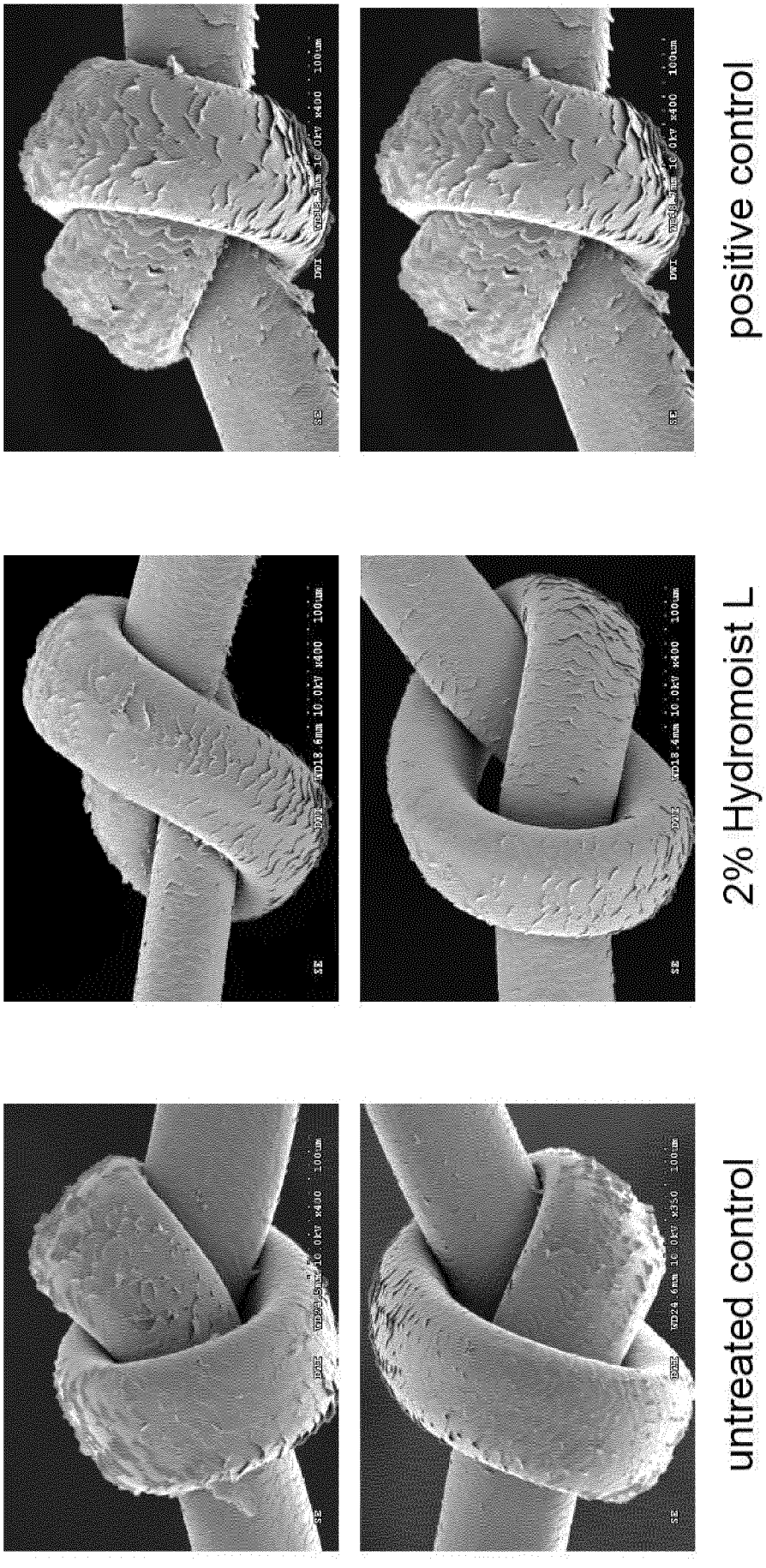


Figure (1/2)

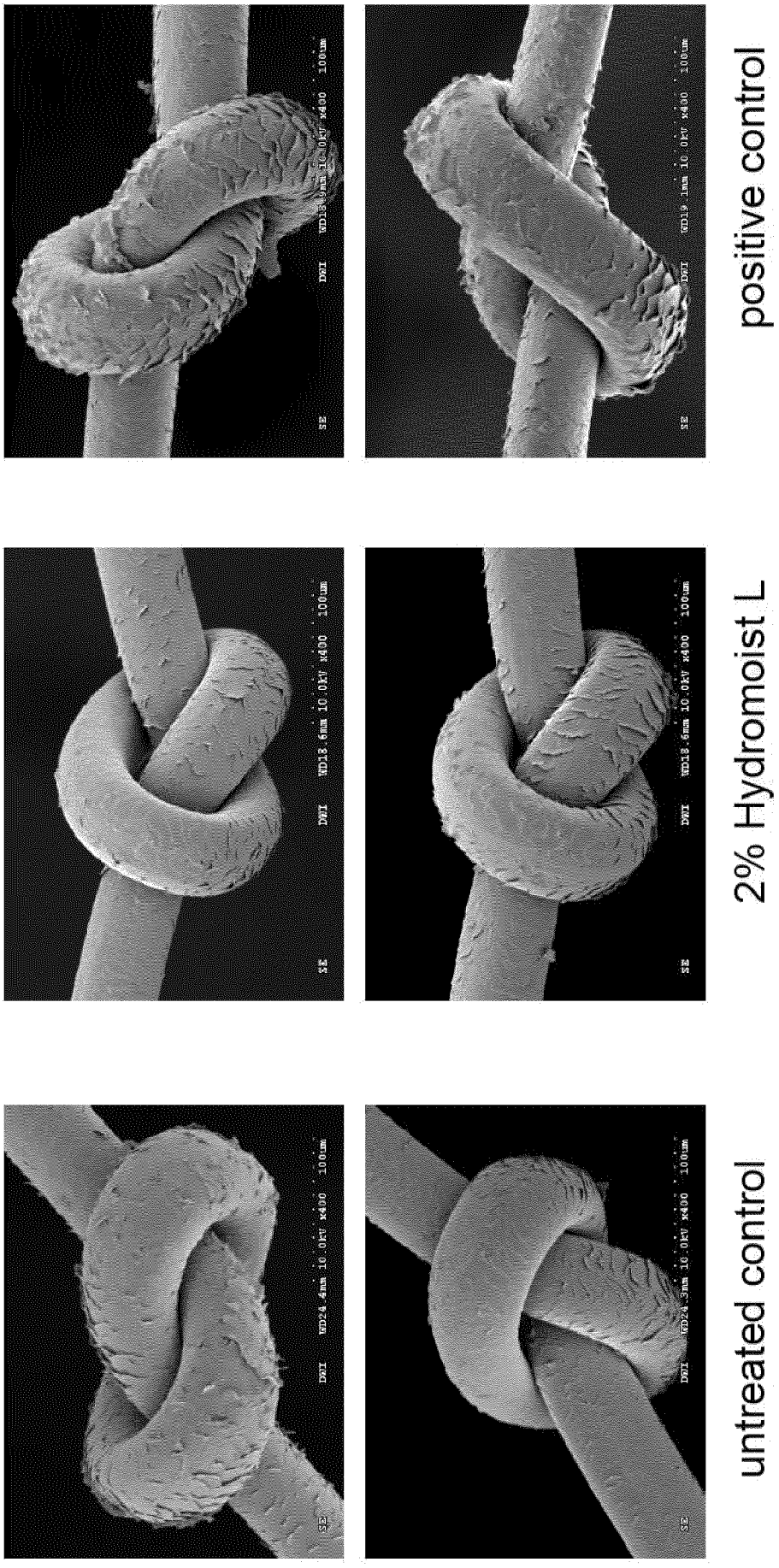


Figure (2/2)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2019/057237

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K8/64 A61K8/9789 A61Q5/12 A61Q19/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61K A61Q

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data, BIOSIS, Sequence Search, EMBASE, EMBL, INSPEC, CHEM ABS Data, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2016/001430 A1 (EXPANSCIENCE[EMPTY][EMPTY] LAB [FR]) 7 January 2016 (2016-01-07)	1-3,9-15
Y	page 3, line 23 - page 6, line 28 page 7, line 13 - page 11, line 6; claims; examples	1-15

X	FR 2 792 202 A1 (PHARMASCIENCE LAB [FR]) 20 October 2000 (2000-10-20)	1-3, 9-11, 13-15
Y	page 2, line 28 - page 5, line 11; claims; examples	1-15

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

[X] See patent family annex.

* Special categories of cited documents :

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

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

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 November 2019	06/12/2019

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Steffen, Pierre

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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2019/057237

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/102259 A1 (EXPANSCIENCE LAB [FR]; CHOULOT JEAN CHRISTOPHE [FR] ET AL.) 3 November 2005 (2005-11-03)	1-3,9-15
Y	page 3, line 24 - line 28 page 6, line 15 - page 8, line 14 page 14, line 25 - page 15, line 24; claims; examples	1-15

X	WO 02/15869 A1 (BOOTS CO PLC [GB]; LE SQUER SYLVIE [FR] ET AL.) 28 February 2002 (2002-02-28)	1-3,9-15
Y	page 3 page 4, last paragraph page 5, paragraph second last examples 1-3 Experiment 2; claims	1-15

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2019/057237

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2016001430 A1	07-01-2016	CN 106470670 A	01-03-2017
		EP 3164197 A1	10-05-2017
		FR 3023164 A1	08-01-2016
		JP 2017519787 A	20-07-2017
		KR 20170026401 A	08-03-2017
		US 2017157019 A1	08-06-2017
		WO 2016001430 A1	07-01-2016
FR 2792202 A1	20-10-2000	AT 279934 T	15-11-2004
		DE 60015112 T2	02-02-2006
		EP 1171143 A1	16-01-2002
		ES 2228500 T3	16-04-2005
		FR 2792202 A1	20-10-2000
		JP 5329731 B2	30-10-2013
		JP 2002542199 A	10-12-2002
		KR 100818010 B1	28-01-2009
		PT 1171143 E	31-03-2005
		US 2004101580 A1	27-05-2004
		US 2005148498 A1	07-07-2005
		WO 0062789 A1	26-10-2000
WO 2005102259 A1	03-11-2005	CN 1960703 A	09-05-2007
		EP 1761240 A1	14-03-2007
		FR 2868703 A1	14-10-2005
		US 2008050458 A1	28-02-2008
		WO 2005102259 A1	03-11-2005
WO 0215869 A1	28-02-2002	EP 1408925 A1	21-04-2004
		FR 2813018 A1	22-02-2002
		WO 0215869 A1	28-02-2002