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(54) Title: COMPOSITION

(57) **Abstract:** Concentrated conditioning shampoo composition comprising from 27-70% wt. cleaning phase, a conditioning gel phase and an oil selected from triglyceride oils, hydrocarbon oils, ester oils, polyolefin oil and mixtures thereof wherein the conditioning gel phase comprises: (a) fatty material; (b) a gel network anionic surfactant comprising an alkyl group with from 16 to 30 carbons; (c) cationic surfactant; wherein the conditioning gel network has no overall charge or is anionic.



COMPOSITION

The present invention relates to a composition comprising a triglyceride oil.

- 5 Despite the prior art there remains a need for improved concentrated conditioning shampoo compositions which comprise triglyceride oils.

Accordingly, the present invention provides a concentrated conditioning shampoo composition according to claim 1.

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The compositions according to the invention provide an improved wet conditioning feel from concentrated shampoos. This is particularly surprising since high surfactants tend to give squeaky and more tangled feel.

15 **Triglyceride oil**

Suitable triglyceride oils include fats and oils including natural fats and oils such as jojoba, soybean, sunflower seed oil, rice bran, avocado, almond, olive, sesame, castor, coconut, coconut palm oil, sunflower oil, mink oils; cacao fat; beef
20 tallow, lard; hardened oils obtained by hydrogenating the aforementioned oils; and synthetic mono, di- and triglycerides such as myristic acid glyceride and 2-ethylhexanoic acid glyceride.

Preferably, the triglyceride oil is present at from 0.05 to 10%, particularly from 0.2
25 to 5%, and especially from 0.5 to 3% by weight of the composition.

Hydrocarbon oil

Suitable hydrocarbon oils have at least 12 carbon atoms, and include paraffin oil,
30 polyolefin oil, mineral oil, saturated and unsaturated dodecane, saturated and

- 2 -

unsaturated tridecane, saturated and unsaturated tetradecane, saturated and unsaturated pentadecane, saturated and unsaturated hexadecane, and mixtures thereof. Branched-chain isomers of these compounds, as well as of higher chain length hydrocarbons, can also be used. Also suitable are polymeric hydrocarbons of

5 C₂₋₆ alkenyl monomers, such as polyisobutylene.

Mixtures of any of the above oils can also be used.

Preferably, from 10 to 100% wt. of the hydrocarbon oil has a viscosity of from 0.01 to

10 600 cPs measured at 30°C according to ASTM D-445.

Preferably, the hydrocarbon oil is present at from 0.05 to 10%, particularly from 0.2 to 5%, and especially from 0.5 to 3% by weight of the composition.

15 **Ester oil**

A further component that is used in compositions of the invention is an ester oil. The ester oil imparts a conditioning benefit to the shampoo.

20 Suitable ester oils have at least 10 carbon atoms, and include esters with hydrocarbyl chains derived from fatty acids or alcohols. Typical ester oils are formula R'COOR in which R' and R independently denote alkyl or alkenyl radicals and the sum of carbon atoms in R' and R is at least 10, preferably at least 20. Di- and trialkyl and alkenyl esters of carboxylic acids can also be used.

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Mixtures of any of the above oils also be used.

Preferably, the ester oil is present at from 0.05 to 10%, particularly from 0.2 to 5%, and especially from 0.5 to 3% by weight of the composition.

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- 3 -

Polyalphaolefin oil

Suitable polyalphaolefin oils include those derived from 1-alkene monomers having from 6 to 16 carbons, preferably from 6 to 12 carbons. Non limiting examples
5 of materials include 1-hexene, 1-octene, 1-decene, 1-dodecene, 1-tetradecene, 1-hexadecene, branched isomers such as 4-methyl-1-pentene and mixtures thereof. Hydrogenated polydecene is another suitable material.

Preferred polyalphaolefins include polydecenes with tradename Puresyn 6 having a
10 number average molecular weight of about 500, Puresyn 100 having a molecular weight of about 3000 and Puresyn 300 having a molecular weight of about 6000 commercially available from Mobil.

Preferably, the polyalphaolefin oil is present at from 0.05 to 10%, particularly from
15 0.2 to 5%, and especially from 0.5 to 3% by weight of the composition.

Conditioning Gel Phase

The conditioning gel network comprises:

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(a) fatty material;

(b) a gel network anionic surfactant comprising an alkyl group with from 16 to 30
carbons;

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(c) cationic surfactant;

wherein the conditioning gel network has no overall charge or is anionic.

- 4 -

The cationic surfactant provides improved robustness of the fatty material/anionic surfactant gel network leading to improved conditioning benefit from a composition also comprising a non-cationic cleansing phase. The difference in carbon chain length between the anionic surfactant in the cleansing phase and the anionic surfactant in the conditioning gel significantly improve stability of the conditioning gel network and maintain its integrity in the shampoo composition.

Preferably, the anionic and cationic surfactants in the gel network contain within 4, preferably 2 carbons and most preferably the same number of carbons. More preferably, they comprise a single alkyl group of within 4, more preferably within 2 and most preferably are the same length. This assists in maintaining stability of the gel network.

Preferably, the carbons in the gel network cationic surfactant are present in a single alkyl group. More preferably the gel network cationic surfactant has from 16-30 carbons.

The conditioning gel network is manufactured prior to incorporation of the remaining ingredients of the composition.

The oil can be dispersed in the conditioning gel phase prior to inclusion into the shampoo or added after.

GN Cationic Surfactant

Preferably, the conditioning gel network comprises a cationic surfactant having from 14 to 30 carbons.

- 5 -

Preferably, the carbons in the gel network cationic surfactant are present in a single alkyl group. More preferably the gel network cationic surfactant has from 16-30 carbons.

- 5 Preferably, the cationic surfactants have the formula $N^+(R^1)(R^2)(R^3)(R^4)$, wherein R^1 , R^2 , R^3 and R^4 are independently (C_{16} to C_{30}) alkyl or benzyl.

Preferably, one, two or three of R^1 , R^2 , R^3 and R^4 are independently (C_{16} to C_{30}) alkyl and the other R^1 , R^2 , R^3 and R^4 group or groups are (C_1 - C_6) alkyl or benzyl.

10

Optionally, the alkyl groups may comprise one or more ester (-OCO- or -COO-) and/or ether (-O-) linkages within the alkyl chain. Alkyl groups may optionally be substituted with one or more hydroxyl groups. Alkyl groups may be straight chain or branched and, for alkyl groups having 3 or more carbon atoms, cyclic. The
15 alkyl groups may be saturated or may contain one or more carbon-carbon double bonds (e.g., oleyl). Alkyl groups are optionally ethoxylated on the alkyl chain with one or more ethyleneoxy groups.

15

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Suitable cationic surfactants for use in conditioner compositions according to the invention include cetyltrimethylammonium chloride, behenyltrimethylammonium chloride, cetylpyridinium chloride, tetramethylammonium chloride, tetraethylammonium chloride, stearyltrimethylbenzylammonium chloride, cocotrimethylammonium chloride, PEG-2-oleammonium chloride and the corresponding hydroxides thereof. Further suitable cationic surfactants include those
25 materials having the CTFA designations Quaternium-5, Quaternium-31 and Quaternium-18. Mixtures of any of the foregoing materials may also be suitable. A particularly useful cationic surfactant for use in conditioners according to the invention is cetyltrimethylammonium chloride, available commercially, for example as GENAMIN CTAC, ex Hoechst Celanese. Another particularly useful cationic
30 surfactant for use in conditioners according to the invention is

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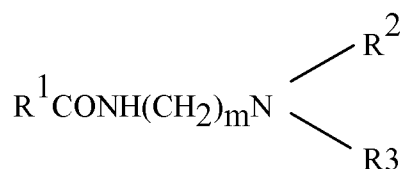
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- 6 -

behenyltrimethylammonium chloride, available commercially, for example as GENAMIN KDMP, ex Clariant.

Another example of a class of suitable cationic surfactants for use in the invention,
 5 either alone or in admixture with one or more other cationic conditioning surfactants, is a combination of (i) and (ii) below:

(i) an amidoamine corresponding to the general formula (I):



10 in which R^1 is a hydrocarbyl chain having 10 or more carbon atoms, R^2 and R^3 are independently selected from hydrocarbyl chains of from 1 to 10 carbon atoms, and m is an integer from 1 to about 10; and

15 (ii) an acid.

As used herein, the term hydrocarbyl chain means an alkyl or alkenyl chain.

20 Preferred amidoamine compounds are those corresponding to formula (I) in which

R^1 is a hydrocarbyl residue having from about 11 to about 24 carbon atoms, R^2 and R^3 are each independently hydrocarbyl residues, preferably alkyl groups, having from 1 to about 4 carbon atoms, and m is an integer from 1 to about 4.

25 Preferably, R^2 and R^3 are methyl or ethyl groups.

- 7 -

Preferably, m is 2 or 3, i.e. an ethylene or propylene group.

Preferred amidoamines useful herein include stearamido-propyldimethylamine, stearamidopropyldiethylamine, stearamidoethyldiethylamine,
5 stearamidoethyldimethylamine, palmitamidopropyldimethylamine, palmitamidopropyldiethylamine, palmitamidoethyldiethylamine, palmitamidoethyldimethylamine, behenamidopropyldimethylamine, behenamidopropyldiethylamine, behenamidoethyldiethylamine, behenamidoethyldimethylamine, arachidamidopropyldimethylamine,
10 arachidamidopropyldiethylamine, arachid-amidoethyldiethylamine, arachidamidoethyldimethylamine, and mixtures thereof.

Particularly preferred amidoamines useful herein are stearamidopropyldimethylamine, stearamidoethyldiethylamine, and mixtures
15 thereof.

Commercially available amidoamines useful herein include: stearamidopropyldimethylamine with tradenames LEXAMINE S-13 available from Inolex (Philadelphia Pennsylvania, USA) and AMIDOAMINE MSP available from
20 Nikko (Tokyo, Japan), stearamidoethyldiethylamine with a tradename AMIDOAMINE S available from Nikko, behenamidopropyldimethylamine with a tradename INCROMINE BB available from Croda (North Humberside, England), and various amidoamines with tradenames SCHERCODINE series available from Scher (Clifton New Jersey, USA).

25

Acid (ii) may be any organic or mineral acid which is capable of protonating the amidoamine in the hair treatment composition. Suitable acids useful herein include hydrochloric acid, acetic acid, tartaric acid, fumaric acid, lactic acid, malic acid, succinic acid, and mixtures thereof. Preferably, the acid is selected from the

- 8 -

group consisting of acetic acid, tartaric acid, hydrochloric acid, fumaric acid, and mixtures thereof.

5 The primary role of the acid is to protonate the amidoamine in the hair treatment composition thus forming a tertiary amine salt (TAS) *in situ* in the hair treatment composition. The TAS in effect is a non-permanent quaternary ammonium or pseudo-quaternary ammonium cationic surfactant.

10 Suitably, the acid is included in a sufficient amount to protonate all the amidoamine present, i.e. at a level which is at least equimolar to the amount of amidoamine present in the composition.

15 The level of cationic surfactant will generally range from 0.01 to 10%, more preferably 0.02 to 7.5%, most preferably 0.05 to 5% by total weight of cationic surfactant based on the total weight of the composition.

GN Fatty Material

20 The conditioning gel network of the compositions of the invention preferably comprises a fatty material.

Preferably, the fatty material is selected from fatty acids, fatty amides, fatty alcohols, fatty esters and mixtures thereof.

25 Preferably, the fatty material comprises a fatty group having from 14 to 30 carbon atoms, more preferably 16 to 22. Examples of suitable fatty alcohols include cetyl alcohol, stearyl alcohol and mixtures thereof. An example of a suitable fatty ester is glyceryl monostearate.

- 9 -

The level of fatty material in compositions of the invention is conveniently from 0.01 to 10%, preferably from 0.1 to 5% by weight of the composition.

5 Preferably the ratio between fatty material and gel network anionic surfactant is from 0.1:1 to 100:1, preferably from 1.2:1 to 50:1, more preferably from 1.5:1 to 10:1 and most preferably around 2:1.

10 Preferably, the anionic and fatty materials of the gel network contain alkyl groups with within 4, preferably 2 carbons and most preferably the same number of carbons. More preferably, they comprise a single alkyl group of within 4, more preferably within 2 and most preferably are the same length. This assists in maintaining stability of the gel network.

GN Anionic Surfactant

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The conditioning gel phase of the compositions of the invention preferably comprise a gel network anionic surfactant.

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The anionic surfactant comprises an alkyl chain with from 16-30 carbons, preferably from 16-22 carbons.

Preferably, the carbons in the gel network anionic surfactant are present in a single alkyl group.

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The gel network comprises an anionic surfactant for achieving an overall anionic charge to the gel network or no overall charge to the gel network.

The gel network anionic surfactant is present at from 0.1 to 5 % by weight of the composition and more preferably from 0.5 to 2.0% wt.

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- 10 -

Cleansing Phase

The cleaning phase comprises a cleansing surfactant. The cleansing phase anionic surfactant has from 8 to 14 carbons, more preferably from 10 to 12 and
5 most preferably 12 carbons. More preferably, these carbons are present in a single alkyl group.

Preferred anionic cleansing surfactants include alkali metal alkyl sulphates, more preferably the alkyl ether sulphates. Particularly preferred anionic cleansing
10 surfactants include sodium lauryl ether sulphate.

The cleansing phase comprises from 27 to 70% by weight cleansing surfactant, preferably from 35 to 50% by weight of the composition.

Cationic Deposition Polymer

In a preferred embodiment the composition according to the invention comprises a cationic deposition polymer.

20 Suitable cationic deposition aid polymers may be homopolymers which are cationically substituted or may be formed from two or more types of monomers. The weight average (M_w) molecular weight of the polymers will generally be between 100 000 and 2 million daltons. The polymers will have cationic nitrogen containing groups such as quaternary ammonium or protonated amino groups, or a mixture
25 thereof. If the molecular weight of the polymer is too low, then the conditioning effect is poor. If too high, then there may be problems of high extensional viscosity leading to stringiness of the composition when it is poured.

The cationic nitrogen-containing group will generally be present as a substituent on
30 a fraction of the total monomer units of the cationic polymer. Thus when the polymer

- 11 -

is not a homopolymer it can contain spacer non-cationic monomer units. Such polymers are described in the CTFA Cosmetic Ingredient Directory, 3rd edition. The ratio of the cationic to non-cationic monomer units is selected to give polymers having a cationic charge density in the required range, which is generally from 0.2 to 3.0 meq/gm. The cationic charge density of the polymer is suitably determined via the Kjeldahl method as described in the US Pharmacopoeia under chemical tests for nitrogen determination.

Suitable cationic polymers include, for example, copolymers of vinyl monomers having cationic amine or quaternary ammonium functionalities with water soluble spacer monomers such as (meth)acrylamide, alkyl and dialkyl (meth)acrylamides, alkyl (meth)acrylate, vinyl caprolactone and vinyl pyrrolidine. The alkyl and dialkyl substituted monomers preferably have C1-C7 alkyl groups, more preferably C1-3 alkyl groups. Other suitable spacers include vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol and ethylene glycol.

The cationic amines can be primary, secondary or tertiary amines, depending upon the particular species and the pH of the composition. In general secondary and tertiary amines, especially tertiary, are preferred.

Amine substituted vinyl monomers and amines can be polymerised in the amine form and then converted to ammonium by quaternization.

The cationic polymers can comprise mixtures of monomer units derived from amine- and/or quaternary ammonium-substituted monomer and/or compatible spacer monomers.

Suitable cationic polymers include, for example:

- 12 -

- cationic diallyl quaternary ammonium-containing polymers including, for example, dimethyldiallylammonium chloride homopolymer and copolymers of acrylamide and dimethyldiallylammonium chloride, referred to in the industry (CTFA) as Polyquaternium 6 and Polyquaternium 7, respectively;

5

- mineral acid salts of amino-alkyl esters of homo-and co-polymers of unsaturated carboxylic acids having from 3 to 5 carbon atoms, (as described in U.S. Patent 4,009,256);

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- cationic polyacrylamides(as described in WO95/22311).

Other cationic polymers that can be used include cationic polysaccharide polymers, such as cationic cellulose derivatives, cationic starch derivatives, and cationic guar gum derivatives.

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Cationic polysaccharide polymers suitable for use in compositions of the invention include monomers of the formula:



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wherein: A is an anhydroglucose residual group, such as a starch or cellulose anhydroglucose residual. R is an alkylene, oxyalkylene, polyoxyalkylene, or hydroxyalkylene group, or combination thereof. R¹, R² and R³ independently represent alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, or alkoxyaryl groups, each group containing up to about 18 carbon atoms. The total number of carbon atoms for each cationic moiety (i.e., the sum of carbon atoms in R¹, R² and R³) is preferably about 20 or less, and X is an anionic counterion.

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Another type of cationic cellulose includes the polymeric quaternary ammonium salts of hydroxyethyl cellulose reacted with lauryl dimethyl ammonium-substituted

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- 13 -

epoxide, referred to in the industry (CTFA) as Polyquaternium 24. These materials are available from the Amerchol Corporation, for instance under the tradename Polymer LM-200.

- 5 Other suitable cationic polysaccharide polymers include quaternary nitrogen-containing cellulose ethers (e.g. as described in U.S. Patent 3,962,418), and copolymers of etherified cellulose and starch (e.g. as described in U.S. Patent 3,958,581).

A particularly suitable type of cationic polysaccharide polymer that can be used is a cationic guar gum derivative, such as guar hydroxypropyltrimethylammonium chloride (commercially available from Rhodia in their JAGUAR trademark series). Examples of such materials are JAGUAR C13S, JAGUAR C14, JAGUAR C15 and JAGUAR C17.

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Mixtures of any of the above cationic polymers may be used.

Cationic polymer will generally be present in a shampoo composition of the invention at levels of from 0.01 to 5%, preferably from 0.05 to 2%, more preferably from 0.07
15 to 1.2% by total weight of cationic polymer based on the total weight of the composition.

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Preferably, the hair care compositions of the invention are aqueous, i.e. they have water or an aqueous solution or a lyotropic liquid crystalline phase as their major component.

Suitably, the composition will comprise from 10 to 98%, preferably from 30 to 95% water by weight based on the total weight of the composition.

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The composition according to the invention preferably comprises a silicone.

- 14 -

Particularly preferred silicone conditioning agents are silicone emulsions such as those formed from silicones such as polydiorganosiloxanes, in particular polydimethylsiloxanes which have the CTFA designation dimethicone, polydimethyl siloxanes having hydroxyl end groups which have the CTFA designation dimethiconol, and amino-functional polydimethyl siloxanes which have the CTFA designation amodimethicone.

The emulsion droplets may typically have a Sauter mean droplet diameter ($D_{3,2}$) in the composition of the invention ranging from 0.01 to 20 micrometer, more preferably from 0.2 to 10 micrometer.

A suitable method for measuring the Sauter mean droplet diameter ($D_{3,2}$) is by laser light scattering using an instrument such as a Malvern Mastersizer.

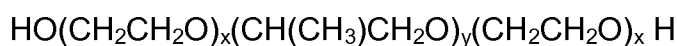
Suitable silicone emulsions for use in compositions of the invention are available from suppliers of silicones such as Dow Corning and GE Silicones. The use of such pre-formed silicone emulsions is preferred for ease of processing and control of silicone particle size. Such pre-formed silicone emulsions will typically additionally comprise a suitable emulsifier such as an anionic or nonionic emulsifier, or mixture thereof, and may be prepared by a chemical emulsification process such as emulsion polymerisation, or by mechanical emulsification using a high shear mixer. Pre-formed silicone emulsions having a Sauter mean droplet diameter ($D_{3,2}$) of less than 0.15 micrometers are generally termed microemulsions.

Examples of suitable pre-formed silicone emulsions include emulsions DC2-1766, DC2-1784, DC-1785, DC-1786, DC-1788 and microemulsions DC2-1865 and DC2-1870, all available from Dow Corning. DC7051 is a preferred silicone. These are all emulsions/microemulsions of dimethiconol. Also suitable are amodimethicone

- 15 -

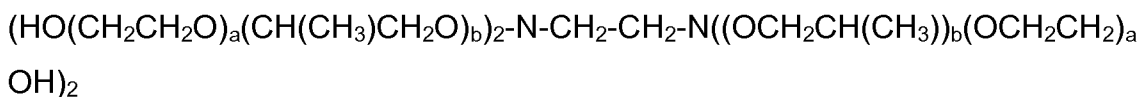
emulsions such as DC2-8177 and DC939 (from Dow Corning) and SME253 (from GE Silicones).

Also suitable are silicone emulsions in which certain types of surface active block copolymers of a high molecular weight have been blended with the silicone emulsion droplets, as described for example in WO03/094874. In such materials, the silicone emulsion droplets are preferably formed from polydiorganosiloxanes such as those described above. One preferred form of the surface active block copolymer is according to the following formula:



wherein the mean value of x is 4 or more and the mean value of y is 25 or more.

Another preferred form of the surface active block copolymer is according to the following formula:



wherein the mean value of a is 2 or more and the mean value of b is 6 or more.

Mixtures of any of the above described silicone emulsions may also be used.

The above described silicone emulsions will generally be present in a composition of the invention at levels of from 0.05 to 15%, preferably from 0.5 to 12% by total weight of silicone based on the total weight of the composition.

The silicone is preferably present at from 0.5 to 15% wt., more preferably 1 to 12% by weight.

- 16 -

Optionally, a composition of the invention may contain further ingredients as described below to enhance performance and/or consumer acceptability.

5 The composition can include co-surfactants, to help impart aesthetic, physical or cleansing properties to the composition.

An example of a co-surfactant is a nonionic surfactant, which can be included in an amount ranging from 0.5 to 10%, preferably from 0.7 to 6% by weight based on the total weight of the composition.

10

For example, representative nonionic surfactants that can be included in shampoo compositions of the invention include condensation products of aliphatic ($C_8 - C_{18}$) primary or secondary linear or branched chain alcohols or phenols with alkylene oxides, usually ethylene oxide and generally having from 6 to 30 ethylene oxide groups.

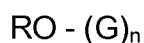
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Other representative nonionic surfactants include mono- or di-alkyl alkanolamides. Examples include coco mono- or di-ethanolamide and coco mono-isopropanolamide. A particularly preferred nonionic surfactant is coco mono-ethanolamide.

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Further nonionic surfactants which can be included in shampoo compositions of the invention are the alkyl polyglycosides (APGs). Typically, the APG is one which comprises an alkyl group connected (optionally via a bridging group) to a block of one or more glycosyl groups. Preferred APGs are defined by the following formula:

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wherein R is a branched or straight chain alkyl group which may be saturated or unsaturated and G is a saccharide group.

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- 17 -

R may represent a mean alkyl chain length of from about C₅ to about C₂₀.

Preferably R represents a mean alkyl chain length of from about C₈ to about C₁₂.

Most preferably the value of R lies between about 9.5 and about 10.5. G may be selected from C₅ or C₆ monosaccharide residues, and is preferably a glucoside. G

5 may be selected from the group comprising glucose, xylose, lactose, fructose, mannose and derivatives thereof. Preferably G is glucose.

The degree of polymerisation, n, may have a value of from about 1 to about 10 or more. Preferably, the value of n lies from about 1.1 to about 2. Most preferably the

10 value of n lies from about 1.3 to about 1.5.

Suitable alkyl polyglycosides for use in the invention are commercially available and include for example those materials identified as: Oramix NS10 ex Seppic; Plantaren 1200 and Plantaren 2000 ex Henkel.

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Other sugar-derived nonionic surfactants which can be included in compositions of the invention include the C₁₀-C₁₈ N-alkyl (C₁-C₆) polyhydroxy fatty acid amides, such as the C₁₂-C₁₈ N-methyl glucamides, as described for example in WO 92 06154 and US 5 194 639, and the N-alkoxy polyhydroxy fatty acid amides, such as C₁₀-C₁₈ N-

20 (3-methoxypropyl) glucamide.

A preferred example of a co-surfactant is an amphoteric or zwitterionic surfactant, which can be included in an amount ranging from 0.5 to about 10%, preferably from 1 to 6% by weight based on the total weight of the composition.

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Examples of amphoteric or zwitterionic surfactants include alkyl amine oxides, alkyl betaines, alkyl amidopropyl betaines, alkyl sulphobetaines (sultaines), alkyl glycines, alkyl carboxyglycines, alkyl amphotacetates, alkyl amphopropionates, alkylamphoglycines, alkyl amidopropyl hydroxysultaines, acyl taurates and acyl glutamates, wherein the alkyl and acyl groups have from 8 to 19 carbon atoms.

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- 18 -

Typical amphoteric and zwitterionic surfactants for use in shampoos of the invention include lauryl amine oxide, cocodimethyl sulphopropyl betaine, lauryl betaine, cocamidopropyl betaine and sodium cocoamphoacetate.

- 5 A particularly preferred amphoteric or zwitterionic surfactant is cocamidopropyl betaine.

- Mixtures of any of the foregoing amphoteric or zwitterionic surfactants may also be suitable. Preferred mixtures are those of cocamidopropyl betaine with further
10 amphoteric or zwitterionic surfactants as described above. A preferred further amphoteric or zwitterionic surfactant is sodium cocoamphoacetate.

- A composition of the invention may contain other ingredients for enhancing performance and/or consumer acceptability. Such ingredients include fragrance,
15 dyes and pigments, pH adjusting agents, pearlescers or opacifiers, viscosity modifiers, and preservatives or antimicrobials. Each of these ingredients will be present in an amount effective to accomplish its purpose. Generally these optional ingredients are included individually at a level of up to 5% by weight of the total composition.

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The invention will be further illustrated by the following, non-limiting Example, in which all percentages quoted are by weight based on total weight unless otherwise stated.

- 19 -

EXAMPLE 1

INCI name	%ad	Example 1	Example 2	Example 3	Example 4
Sodium Laureth Sulphate	70	34.28	34.28	34.28	34.28
Cocoamidopropyl Betaine	30	10.66	-	10.66	-
Cocamide MEA	85	-	2.0	-	2.0
Glycol Distearate	35	4.0	4.0	4.0	4.0
Dimethiconol DC1788	50	12.0	12.0	12.0	12.0
Glycine Soja Oil	100	4.0	4.0	4.0	4.0
Parfum	100	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.4	0.4	0.4	0.4
Sodium chloride	100	-	-	1.0	1.0
Propylene Glycol	100	-	-	-	-
Dimethiconol DC7123	50	-	-	-	-
DMDM Hydantoin and 3-iodo-2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

INCI name	%ad	Example5	Example6	Example7	Example8
Sodium Laureth Sulphate	70	34.28	34.28	34.28	34.28
Cocoamidopropyl Betaine	30	10.66	-	10.66	-
Cocamide MEA	85	-	2.0	-	2.0
Glycol Distearate	35	4.0	4.0	4.0	4.0
Dimethiconol DC1788	50	12.0	12.0	8.0	8.0
Glycine Soja Oil	100	4.0	4.0	4.0	4.0
Parfum	100	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.4	0.4	0.4	0.4
Sodium chloride	100	-	-	1.0	1.0
Propylene Glycol	100	10.0	10.0	-	-
Dimethiconol DC7123	50	-	-	4.0	4.0
DMDM Hydantoin and 3-iodo-2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

- 20 -

INCI name	%ad	Example 9	Example 10	Example 11	Example 12
Sodium Laureth Sulphate	70	34.28	34.28	34.28	34.28
Cocoamidopropyl Betaine	30	10.66	-	10.66	-
Cocamide MEA	85	-	2.0	-	2.0
Glycol Distearate	35	4.0	4.0	4.0	4.0
Dimethiconol DC1788	50	12.0	12.0	12.0	12.0
Glycine Soja Oil	100	3.0	3.0	3.0	3.0
Parfum	100	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.4	0.4	0.4	0.4
Cocos Nucifera Oil	100	2.0	2.0	2.0	2.0
Sodium chloride	100	-	-	1.0	1.0
Propylene Glycol	100	-	-	-	-
Dimethiconol DC7123	50	-	-	-	-
DMDM Hydantoin and 3-iodo-2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

EXAMPLE 2

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All inventive formulations according to the invention were made according to this process with substitution of the oil where necessary. At least 8% of water was heated to about 80°C in a side pot. To this, was added the cationic (Behenyl Trimethyl Ammonium Chloride) surfactant, fatty alcohol, then secondary anionic surfactant (Sodium Cetylstearyl Sulphate) using high speed stirring. When uniform dispersion obtained, this mixture was cooled down to about 45°C with the same speed stirring. This mixture was then added to concentrated primary surfactant (Sodium Laureth Sulphate) in a high speed dispersion mixer with dual homogeniser discs and scraper. The components were mixed with high shear and under vacuum. The remaining ingredients followed under the same conditions. Triglyceride oil is added before adding water. Remaining water is added in the formulation last.

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- 21 -

EXAMPLE 3

The following formulations were made to assess the benefits of the invention against suitable comparatives. They are made by similar processes.

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INCI name	%ad	Compara tive 1	Compara tive 2	Compara tive 3 (No Gel)	Compara tive 4 (Gel)	Example 1 (Gel+Oil)	Example 2 (Gel+Oil)
Sodium Laureth Sulphate	70	20.00	20.00	34.28	34.28	34.28	34.28
Cocoamidopropyl Betaine	30	5.33	5.33	10.66	10.66	10.66	-
Cocamide MEA	85	-	-	-	-	-	2.0
Carbomer	100	0.4	0.4	-	-	-	-
Glycol Distearate	35	4.0	4.0	4.0	4.0	4.0	4.0
Dimethiconol / TEA-DOBS	50	6.0	6.0	12.0	12.0	12.0	12.0
Sodium Cetearyl sulphate	100	-	-	-	0.6	0.6	0.6
Cetostearyl Alcohol	100	-	-	-	1	1	1
Behentrimonium Chloride	77.5	-	-	-	0.06	0.06	0.06
Mineral oil	100	-	3	-	-	1.0	1.0
Parfum	100	0.8	0.8	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.15	0.15	0.3	0.3	0.3	0.3
Guar Hydroxypropyl Trimonium Chloride	100	0.05	0.05	0.1	0.1	0.1	0.1
Sodium chloride	100	0.5	0.5	-	-	-	-
DMDM Hydantoin and 3-iodo-2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

The benefit assessed was wet coated feel.

- 22 -

BENEFIT	Comparative 1	Comparative 2	Comparative 3 (Half dose)	Comparative 4 (Half Dose)	Example 1 (Half Dose)
Wet Coated Feel	3.05	3.2	3.5	3.95 (95%sign diff vs Comparative 1)	4.55 (99% significant difference vs Comparative1)

5 **EXAMPLE 4**

The following are shampoo formulations made by similar processes.

INCI name	%ad	Example 1	Example 2	Example 3	Example 4
Sodium Laureth Sulphate	70	34.28	34.28	34.28	34.28
Cocoamidopropyl Betaine	30	10.66	-	10.66	-
Cocamide MEA	85	-	2.0	-	2.0
Glycol Distearate	35	4.0	4.0	4.0	4.0
Dimethiconol / TEA- DOBS	50	12.0	12.0	12.0	12.0
Sodium Cetearyl sulphate	100	0.3	0.3	0.3	0.3
Cetostearyl Alcohol	100	0.5	0.5	0.5	0.5
Behentrimonium Chloride	77.5	0.03	0.03	-	-
Cetyl trimethylammonium chloride	29	-	-	0.085	0.085

- 23 -

Trimethylolpropane tricaprylate/tricaprate	100	1.0	1.0	1.0	1.0
Parfum	100	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.4	0.4	0.4	0.4
DMDM Hydantoin and 3-iodo- 2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

EXAMPLE 5

In order to demonstrate the improved wet coated feel of the compositions of the
5 invention a comparison was made between the formulations listed below.

INCI name	%ad	Compara tive 1 (No Gel, No oil)	Compara tive 2 (Gel)	Example 1	Example 2	Example 3	Example 4
Sodium Laureth Sulphate	70	34.28	34.28	34.28	34.28	34.28	34.28
Cocoamidoprop yl Betaine	30	10.66	10.66	10.66	-	10.66	-
Cocamide MEA	85	-	-	-	2.0	-	2.0
Carbomer	100	-	-	-	-	-	-
Glycol Distearate	35	4.0	4.0	4.0	4.0	4.0	4.0
Dimethiconol / TEA-DOBS	50	12.0	12.0	12.0	12.0	12.0	12.0
Sodium Cetearyl sulphate	100	-	0.3	0.3	0.3	0.3	0.3
Cetostearyl Alcohol	100	-	0.5	0.5	0.5	0.5	0.5
Behentrimoniu m Chloride	77.5	-	0.03	0.03	0.03	-	-

- 24 -

Cetyl trimethylammonium chloride	29	-	-	-	-	0.085	0.085
Hydrogenated C6-14 Olefin Polymers	100	-	-	1.0	1.0	1.0	1.0
Parfum	100	0.8	0.8	0.8	0.8	0.8	0.8
Guar Hydroxypropyl Trimonium Chloride	100	0.4	0.4	0.4	0.4	0.4	0.4
DMDM Hydantoin and 3-iodo-2propynylbutyl carbamate	50	0.2	0.2	0.2	0.2	0.2	0.2
Aqua		q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100	q.s.to 100

BENEFIT	Comparative 1	Comparative 2	Example 1
Wet Coated Feel	0.5	0.79 (99% diff)	0.81 (99.9%diff)

- 25 -

CLAIMS

1. Concentrated conditioning shampoo composition comprising from 27-70%
wt. cleaning phase, a conditioning gel phase and an oil selected from
5 triglyceride oils, hydrocarbon oils, ester oils, polyolefin oil and mixtures
thereof wherein the conditioning gel phase comprises:

(a) fatty material;

10 (b) a gel network anionic surfactant comprising an alkyl group with from 16
to 30 carbons;

(c) cationic surfactant;

15 wherein the conditioning gel network has no overall charge or is anionic.
2. Composition according to claim 1 wherein the conditioning gel phase
comprises a fatty material selected from fatty alcohols, fatty esters, fatty
acids and fatty amides.
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3. Composition according to claim 2 wherein the fatty material is straight chain
or branched and has from 14 to 30 carbons.
4. Composition according to any preceding claim wherein the conditioning gel
25 phase comprises a cationic surfactant having from 16 to 30 carbons.
5. Composition according to any preceding claim wherein the conditioning gel
phase comprises anionic surfactant having from 16 to 22 carbons.

- 26 -

6. Composition according to any preceding claim comprising a cationic deposition polymer.
7. Composition according to any preceding claim comprising a silicone.