(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
01 February 2018 (01.02.2018)

WIPO | PCT

(10) International Publication Number
WO 2018/018488 A1

(51) International Patent Classification:
A61K 8/9789 (2017.01) *A61K 8/891* (2006.01)
A61K 8/34 (2006.01) *A61Q 5/06* (2006.01)
A61K 8/81 (2006.01)

(21) International Application Number:
PCT/CN2016/092019

(22) International Filing Date:
28 July 2016 (28.07.2016)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicants: **BEIERSDORF DAILY CHEMICAL (WUHAN) CO., LTD.** [CN/CN]; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **BEIERSDORF AG** [DE/DE]; Unnastrasse 48, 20253 Hamburg (DE).

(72) Inventors: **LI, Wentao**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **WU, Shuiping**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **LIU, Xiaoping**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **WANG, Tan**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **BAO, Zhaoxia**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN). **HONG, Xiaopeng**; No. 512, Dongfeng Road, Wuhan Economic and Technological Development Zone, Wuhan, Hubei (CN).

(74) Agent: **CHINA SINDA INTELLECTUAL PROPERTY LTD.**; B11th Floor, Focus Place, 19 Financial Street, Xicheng District, Beijing 100033 (CN).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*

WO 2018/018488 A1

(54) Title: A HAIR STYLING COMPOSITION CONTAINING ROSE HIP OIL AND USE THEREOF

(57) Abstract: Disclosed is a hair styling composition comprising a fixing and/or film-forming polymer, a fatty alcohol, and rose hip oil, and use thereof. The composition improves the look of the hair referring to freshness, shine and moisture.

A Hair Styling Composition Containing Rose Hip Oil and Use Thereof

Technical field

The invention relates to a cosmetic preparation, in particular a hair styling composition, comprising at least one fixing and/or film-forming polymer, fatty alcohols, and rose hip oil. The cosmetic preparation leads to a very satisfying styling of the hair together with an improvement of the physical-optical properties of hair, especially referring to shine and moisture, without leaving hair with an oily or coated appearance. The invention also relates to use of the cosmetic preparation.

Background Art

The entire human body, with the exception of the lips, the palms of the hands and the soles of the feet, is covered with hair, albeit for a large part barely visible. Because of the many nerve endings at the hair root, hair reacts sensitively to external influences such as wind or touch and is therefore a part of the sense of touch that should not be underestimated. However, nowadays, the most important function of human head hair lies in helping to create the appearance of the person in a characteristic manner. Similarly to the skin, it fulfills a social function because it contributes considerably to interpersonal relations and to the self-esteem of an individual via its outward appearance.

Hair is consisting of hair shaft and hair root. Hair shaft protrudes freely from the skin, and is a keratinized (dead) section of the hair. Hair shaft represents the actual visible part of the hair, which is continually renewed. Hair root which sticks in the skin is the living part of the hair. Hair shaft consists of three layers: the central part, which is called hair marrow (medulla), is regressed in humans, often completely missing; then there is the marrow, also called cortex; and cuticle as the outermost layer, comprising up to ten horny layers.

Human hair in its freshly grown condition is virtually impossible to improve. The part of the hair in the vicinity of the scalp accordingly has a virtually closed horny layer. In particular, the horny layer, being the external sheath of the hair, and also the inner region below the cuticle are subjected to particular stress by environmental influences.

Sunlight, mechanical stress by intensive combing or brushing, hair treatments, such as hair colorations, bleaching and permanent waving, and also hair shaping using a hair dryer or other tools can cause damage to hair.

In general, compositions intended to be applied to hair for different purposes should help to retain the natural state of freshly grown hair. Natural healthy hair has a silky shine look, low porosity and a pleasant, smooth feel.

One aim of hair styling is to provide strong hold for the styled hair together with a natural appearance. The hair fixing agents should be easily brushed and/or washed out, leaving the hair in a non-dry, non-damaged and pleasant condition.

Rose hip oil, the INCI name being Rosa canina fruit oil, is extracted from the seeds of rose hips. The plant Rosa canina belongs to the family of Rosaceae. The rose hip oil is transparent and light yellow to orange. Rose hips and extracts thereof can be used for instance for the preparation of herbal teas, jams, jellies, syrups, beverages, wine and marmalade.

Rose hip oil is a natural oil obtained from rose hips seeds by pressing or extraction and subsequently refining. Rose hip oil is composed of a mixture of different triglycerides of fatty acids, the fatty acids being mostly unsaturated fatty acids, especially C18:1 with about 13 to 18%, C18:2 with about 35 to 50% and C18:3 with about 22 to 38%. Additionally, tocopherols in form of α- and β-tocopherol, are present in a considerable amount in rose hip oil.

The use of rose hip oil in cosmetic compositions is known. Different effects on skin are disclosed.

CN 103385809 A describes compositions for reducing spots, CN 104248597 A discloses compositions for whitening and removing spots, and CN 105147577 A offers a method to reduce melanin deposition. CN 105030574 A discloses a facial care composition and CN 104352372 A a multi-effect skin-protection plant extract, containing rose hip oil amongst others.

A traumatic injury ointment is disclosed in CN 105126037 A and CN 104997670 A describes a moisturizing cream for preventing striae gravidarum. An essential oil, containing rose hip oil, for light skin burns and scalds is disclosed in CN 105055582 A. A medicament for treating periodontitis is described in CN 105031269 A.

All the mentioned documents disclose mixtures of plant extracts or oils containing amongst others rose hip oil. None of the documents describes which of the claimed effects can be assigned to rose hip oil.

There are disclosures of compositions suitable for hair treatment containing rose hip oil. JP 2016056120 A describes a composition for straightening and coloring hair, the composition containing a liquid oil which can be rose hip oil. JP 2014240363 A discloses a hair dye composition which contains rose hip oil. The mentioned composition has a good dying property and an improved resistance to color fading due to shampooing.

WO 2010/004553 A1 discloses hair treatment compositions for removing lice. These compositions can contain oils and one of these oils can be rose hip oil.

A hairdressing composition in form of an aerosol type spray is described in JP 2013173686 A containing dimethiconol and rose hip oil.

None of the mentioned documents explicitly show any effect of rose hip oil concerning the improvement of dry hair with respect to hardness, elasticity, shine, curl retention, moisture and non-greasiness provided by hair styling compositions.

Furthermore, prior art hair styling compositions also suffer from the following disadvantages: Frequent perming and dying damages the hair. Curl revive creams are frequently used to repair the damaged hair and to hold the curl shape. These revive creams contain polymers and/or silicones, both of which tend to deposit on the hair. These deposits are hardly to remove. The hair looks greasy and becomes more and more dry.

The present invention is made to overcome the above mentioned disadvantages of the prior art hair styling compositions. Aim of the present invention is to provide styling compositions containing a natural oil, such as rose hip oil, for treatment of hair without leaving an oily film on the hair, but at the same time providing fresh looking, moisturized, shiny and well styled hair. The compositions of the present invention are especially suitable to keep the delicate balance between hair looking moisturized and shiny but without being greasy together with a good hold of the curl shape, thereby leaving the curled hair elastic.

Preferably, the styling composition of the present invention should provide a good and elastic hold of the styled hair together with a care of the hair by natural oils, especially rose hip oil.

Summary of the invention

Inventors of the present invention found out that a styling composition containing rose hip oil in a concentration of 0.001 to 10.0% by weight is able to improve the physical-optical properties of hair.

In a first aspect, the present invention provides a composition for styling hair, comprising

- at least one fixing and/or film-forming polymer,
- at least one fatty alcohol, and
- Rose hip oil in an amount of 0.001 to 10.0 % by weight, relative to the total weight of the composition.

In a further aspect, the composition comprises preferably 0.05 to 7.5 % by weight, more preferably 0.1 to 6.0 % by weight, and most preferably 2% by weight of rose hip oil.

Furthermore, the composition can optionally comprise at least one auxiliary component as listed in the part of "detailed description of the invention". The at least one auxiliary component is selected from silicones, further conditioning components, emulsifiers, preservatives, antioxidants and mixtures thereof.

In addition to the above components and the auxiliary components, the composition comprises a balance amount of water, so that all the components amount to 100% by weight.

In another aspect, the present invention refers to use of the composition of the present invention in styling and caring hair, especially to improve the look of the hair referring to shine and moisture. In another aspect the use of the compositions of the present invention are providing a strong hold of the styled hair without generating stiff hair. The styled hair remains elastic.

By using the composition of the present invention, the disadvantages of the prior art styling compositions are overcome. The styling composition of the present invention leads to significantly improved qualities of the hair referring to shine, moisture and non-greasiness together with good hold of the styled hair, shown by the parameters of hardness and curl retention, without leaving the hair stiff, shown by the parameter of elasticity.

Detailed description of the invention

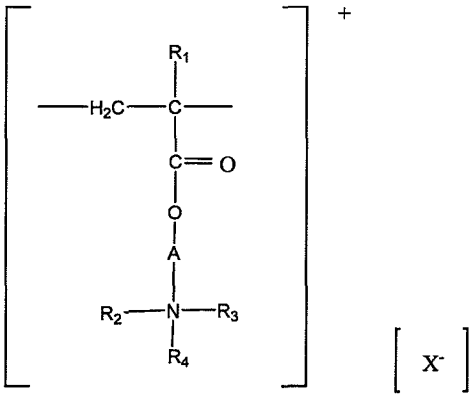
The rose hip oil is obtained from the seeds of rose hips. For example, rose hip oil is commercially available as Rosa Canina Fruit Oil from Croda Chemical Co., Ltd with the trade name Seatons Rosehip Oil, especially Seatons Rosehip Oil REF-LQ-(JL). It is a natural oil obtained from the hip seeds by pressing, extraction and refining.

The use of rose hip oil is essential for the present invention.

According to the invention at least one fixing polymer can be used in the compositions of the invention. Fixing polymers can build up very small bridges between single hairs or hair tresses thereby fixing the hair. Fixing polymers are known in prior art. They can be classified as anionic, nonionic and cationic polymers.

According to the invention it is preferred to use nonionic fixing polymers. Nonionic fixing polymers can be homopolymers of vinyl pyrrolidone, N –Vinylformamids or N-vinylcarprolactam. Suitable are also copolymers of vinylpyrrolidone and vinylacetate or vinylpyrrolidone and dimethylaminoethylmethacrylat, terpolymers of vinylpyrrolidon, vinylacetate and propionate or vinylcaprolactam, vinylpyrrolidon and dimethylaminomethacrylat. Also specific polysiloxanes can be used as nonionic fixing polymers. According to the present invention it is preferred to use homoplymers of vinyl pyrrolidone which can be purchased as Luviskol K 90 Powder from BASF.

Cationic polymers can also be used in the compositions of the present invention. An example for a suitable cationic polymer is a homopolymer consisting essentially of the monomers characterized by the following formula:



Where R_1 is hydrogen atom or a CH_3 substituent, R_2, R_3, R_4 are identical or different substituents representing alkyl substituents with 1 to 18 carbon atoms or a benzyl substituent. A represents a straight or branched alkyl chain of 1 to 6 carbon atoms or a hydroxylated alkyl chain of 1 to 4 carbon atoms.

The at least one fixing polymer is used preferably in an amount of 0.1 to 7.5 % by weight, more preferably 0.5 to 5.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the fixing polymers. The content is referring to the total content of fixing polymers in the respective composition.

According to the invention at least one film-forming polymer can be used. It is advantageous when the at least one film-forming polymer has viscosity increasing properties, too. Preferably, these polymers are composed of monomers which can be a single class of monomers or two or more different monomers. According to the present invention it is preferred that at least acrylic acid, methacrylic acid and/or the respective salts are monomers contained in the polymer. It is further preferred when a second class of monomers is contained in the polymer, namely C10-C30 alkyl esters of acrylic or methacrylic acid. Even more preferred is the use of polymers with the INCI name

Acrylates/C10-30 Alkyl Acrylate Crosspolymer. For instance, these polymers can be purchased from Lubrizol with the trade name CarbopolUltrez 21 Polymer.

The at least one film-forming polymer is used in an amount of 0.1 to 7.5 % by weight, more preferably 0.5 to 5.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the film-forming polymers.

According to the invention at least one fatty alcohol is used. Fatty alcohols are straight, long-chained with one hydroxyl group at the first carbon atom. The alkyl residue has 6 to 22 carbon atoms and can have one or multiple double bonds. It is preferred that the alkyl residues have 14 to 20 carbon atoms. More preferred is the use of cetyl alcohol, stearyl alcohol and/or cetearyl alcohol.

The at least one fatty alcohol is used preferably in an amount of 0.01 to 5.0 % by weight, more preferably 0.1 to 2.0 % by weight, relative to the total weight of the composition.

According to the invention, additional conditioning components can be optionally comprised in the composition.

Silicones, especially dimethicones are a preferable class of hair care components. Hair styling compositions according to the present invention can preferably contain dimethicones.

Silicones are synthetic polymers containing silicium atoms connected via oxygen atoms. The functional unit consisting of silicium atom and oxygen atom is called siloxane. In case of dimethicones many siloxane units are arranged in a linear way, each silicium atom having two methyl residues and the silicium atoms at the ends having three methyl residues. Dimethicones are varying in length. The differing length accounts for differing viscosity values. Therefore dimethicones can be characterized by

these values. Dimethicones, or silicone fluids, as they are also called, can be purchased having varying values of viscosity. Commercial products have a viscosity values between 1 centistokes (cst) and 1,000,000 cst. The lower viscosity products are miscible for example with mineral oil and isopropyl myristate and are useful for aerosol applications. The products having 100 – 500 cst are the traditional silicones used as additives in skin care formulations and products characterized by higher viscosities are used in barrier products or in hair products.

According to the invention, the silicones are preferably dimethicones available as Baysilone M Dimethicone (100 – 2,000,000 cst,) or CB-50M (~500,000 cst at 25°C), both supplied by Momentive; further low viscosity silicones and high viscosity silicones are feasible; preferred are Dimethyl Silicone Fluids supplied by Dow Corning like PMX-200 Silicone Fluid (~350 – 500,000 cst) or XIAMETER® PMX-6634 Fluid (250,000 - ~650,000 cst) or SF 100N-350 cst (~300 – 400 cst) supplied by KCC Co.,Ltd.

The dimethicones are used preferably in an amount of 0.5 to 7.0 % by weight, more preferably 0.75% to 5.0 % by weight, even more preferably 1.0 to 4.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the dimethicones. The given contents are referring to the total content of silicones.

According to the present invention there are embodiments which do not contain any dimethiconol. Dimethiconolis not added to the respective compositions nor otherwise contained in raw materials which are added to the respective compositions. Dimethiconols are belonging to silicones. Dimethiconols are polydimethylsiloxanes characterized by the fact that one of the terminal methyl residues was substituted by a hydroxyl group.

According to the invention it is advantageous to use additional components which can have conditioning qualities for hair thus supporting the effect of rose hip oil. These

components can be selected from C12-15 alkyl benzoate, ParaffinumLiquidum and PEG90M + silica. Each of these components can be used alone or in combination with each other.

C12-15 alkyl benzoate is a mixture of benzoic acid esters consisting of benzoic acid and alcohols that have a carbon chain length from 12 to 15.

C12-15 alkyl benzoate can be used in an amount of 0.1 to 8.0 % by weight, preferably 0.5 to 3.0 % by weight, relative to the total weight of the composition.

ParaffinumLiquidum consists of hydrocarbon molecules which are saturated, unbranched or branched. They can be obtained synthetically or refined from petroleum. For example, Paraffinumliquidum can be obtained from H & R ChemPharm with the trade name Pionier 2076.

ParaffinumLiquidum can be used in an amount of 0.1 to 10.0 % by weight, preferably 0.5 to 6.0 % by weight, relative to the total weight of the composition.

PEG90M + silica is also advantageously contained in the compositions according to the present invention. The abbreviation PEG stands for polyethylene glycols, consisting of numerous molecules of ethylene oxide. 90M indicates that 90,000 molecules of ethylene oxide are contained. M is the abbreviation for thousand. In general, polyethylene glycols consisting of from about 1000 to about 500M ethylene oxide can be used according to the present invention.

Said polyethylene glycols, especially PEG 90M + silica, can be used in an amount of 0.01 to 5.0 % by weight, preferably 0.05 to 2.0 % by weight, relative to the total weight of the composition.

The hair styling compositions of the present invention preferably contain humectants. Humectants are hygroscopic substances which bind water and therefore provide moisture. The hygroscopic quality is due to hydrophilic substituents of the molecule, in many cases hydroxyl groups, but other functional groups as amine or carboxyl groups can fulfill the same function. Examples of humectants are propylene glycol, hexylene glycol, and butylene glycol, glyceryl triacetate, glycerol, sorbitol, xylitol, maltitol, polydextrose, urea, Aloe vera gel, alpha hydroxy acids such as lactic acid, honey. Preferred humectants are lactic acid and propylene glycol.

One or more humectants can be used according to the present invention. However it is preferred that at least two different humectants are present in the compositions according to the invention. The one or more humectant(s) is/are used preferably in an amount of 0.1 to 7.5 % by weight, more preferably 1.0 to 5.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the humectant.

According to the present invention, the compositions can comprise preservatives, which are allowed and suitable for cosmetic preparations. However, it is preferred to use DMDM Hydantoin, Methylparaben, Ethylparaben, and Phenoxyethanol, or mixtures thereof. Other preservatives can also be used, for example Benzyl Alcohol, Methylisothiazolinone and Methylchloroisothiazolinone. These preservatives can be used alone or in combination or in combination with the above mentioned preferred preservatives.

The preferred preservatives can be used alone or in combination. The total amount of preservative, referring as well to one single preservative as to a combination of preservatives, is from 0.01 to 2.0 % by weight, preferably 0.05 to 1.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the preservatives.

According to the present invention the hair styling composition can contain at least one emulsifier. In general, emulsifiers are substances which are stabilizing emulsions. They can be classified as ionic and non-ionic emulsifiers with the last ones being preferred. According to the present invention especially preferred are sorbitans which are esterified with fatty acids and ethoxylated. Polysorbate 60 is an example of this class of emulsifiers. Polysorbate 60 can be obtained from Croda Chemical Co., Ltd with the trade name TWEEN 60-LQ-(SG).

The at least one nonionic emulsifier is used in an amount of 0.1 to 7.5 % by weight, more preferably 0.5 to 3.0 % by weight, relative to the total weight of the composition. The values are referring to the active content of the nonionic emulsifiers.

According to the present invention antioxidants can be used in the hair styling compositions. In general antioxidants are molecules which prevent other molecules from being oxidized. Oxidation processes can produce free radicals which are damaging or destroying other molecules. When these other molecules are part of living cells these cells can be damaged. There are several molecules which are able to function as radical scavenger. These molecules are also called antioxidants. The antioxidants can be of natural origin as for example vitamin C, gluthathione, lipoic acid, carotenes, vitamin E and coenzyme Q. But there are also synthetic antioxidants as butylhydroanisol (BHA), butylhydroxytoluol (BHT) and pentaerythrityl tetra-di-t-butyl-hydroxyhydrocinnamate. According to the invention it is preferred to use antioxidants of synthetic origin.

The at least one antioxidant is used in an amount of 0.001 to 0.1 % by weight, preferably 0.01 to 0.07 % by weight, relative to the total weight of the composition. The values are referring to the active content of the antioxidants.

Preparation method

The composition of the present invention can be prepared by any technique known or effective to prepare a hair styling composition. The hair styling compositions can be prepared as pump creams or pump sprays. The process to prepare the composition of the present invention comprises conventional formulating and mixing techniques.

Specifically, compositions of the present invention and a comparative composition are preferably produced with the following procedure (Table 1 shows the detailed composition of the examples, and table 3 shows the corresponding trade names and INCI names of the components):

heat oil phase (Pentaerythrityl Tetra-Di-t-Butyl Hydroxyhydrocinnamate, Polysorbate 60, Glyceryl Stearate, ParaffinumLiquidum, C12-15 Alkyl Benzoate, Cetearyl Alcohol, BehentrimoniumMethosulfate, Dimethicone, Methylparaben andPhenoxyethanol) to 80°C,

heat water phase (water, Butylene Glycol, Disodium EDTA, Acrylates/C10-30 Alkyl Acrylate Crosspolymer) to 75-80°C,

combine both phases whilst stirring, then homogenize the batch until the appearance is homogeneous,

add Sodium Hydroxide and water, stir continuously and homogenize,

cool down to 45°C,

add polymer, fragrance, Rose hip Oil and other additives,

stir continuously and cool to room temperature.

Test method

In order to show that the addition of rose hip oil into the inventive compositions has an effect and contributes to the solution of the above-mentioned problem, a halfhead test is conducted. The test is carried out through the following procedure:

Compositions comprising rose hip oil at different concentrations ranging from 0.5 to 4.0 % by weight (Examples 1-5) are prepared as samples of the present invention,

and as well as a comparative sample (Comparative Example), which does not comprise any rose hip oil at all. Respective test samples are filled in syringes, not revealing any details of the composition therein. Depending on the length of the hair, the sample use amount will be 3-5 ml.

Wash the subject's hair with a base blank shampoo. Towel the hair to remove the spare water and separate subject's hair from the middle of head.

Put each sample in one hand, evaluate consistency of each sample. Spread each sample on hair, evaluate the following attributes in wet phase: easy to use, appearance, spreadability, non-sticky, non-greasy, moisture and shine.

Use a hair dryer to dry gently subject's from hair end to root until two half sides are in the same state. The two sides of the head are kept separated by using a wind shield. Evaluate the following attributes in dry hair directly: stiffness, elastic, curl retention, volume, no frizz, shine, dusty/flake (light and soft).

Subject's hair is evaluated again after four hours in normal condition. Following attributes are evaluated in dry hair: stiffness, elastic, curl retention, volume, no frizz, shine und dusty/flake (light and soft).

Finally give general comment to both sides and re-style the hair in a proper way.

The evaluation is done based on a 10-point system, "1 point" corresponds to "bad", and "10 points" corresponds to "good". A value of 5 points is a medium value, corresponding to sufficient qualities. The values of 9 to 6 points give descending values, making it possible to differentiate stepwise between good and sufficient. Correspondingly, the values of 4 to 2 points give descending values, making it possible to differentiate stepwise between sufficient and bad.

The test and evaluation results are shown in Table 2, wherein the average score based on the 8 evaluation scores is recorded for each sample.

Table 1:Composition of Examples 1 to 5 and Comparative Example

Ingredients	**ComparativeExample**	**Example1**	**Example 2**	**Example 3**	**Example 4**	**Example 5**
Disodium EDTA	0.03	0.03	0.03	0.03	0.03	0.03
PVP	2.0	2.0	2.0	2.0	2.0	2.0
ParaffinumLiquidum	1.0	1.0	1.0	1.0	1.0	1.0
PropyleneGlycol	2.0	2.0	2.0	2.0	2.0	2.0
Dimethicone	3.0	1	1	1	1	1
ButyleneGlycol	2.0	2.0	2.0	2.0	2.0	2.0
Polysorbate 60	1.5	1.5	1.5	1.5	1.5	1.5
CetearylAlcohol	1.5	1.5	1.5	1.5	1.5	1.5
C12-15 Alkyl Benzoate	1.0	1.0	1.0	1.0	1.0	1.0
Phenoxyethanol	0.6	0.6	0.6	0.6	0.6	0.6
GlycerylStearate	0.5	0.5	0.5	0.5	0.5	0.5
Parfum	0.12	0.12	0.12	0.12	0.12	0.12
Methylparaben	0.1	0.1	0.1	0.1	0.1	0.1
PEG-90 M + Silica	0.1	0.1	0.1	0.1	0.1	0.1
Acrylates/C10-30 Alkyl Acrylate Crosspolymer	0.07	0.07	0.07	0.07	0.07	0.07
Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate	0.05	0.05	0.05	0.05	0.05	0.05
Sodium Hydroxide	0.014	0.014	0.014	0.014	0.014	0.014
Rosa CaninaFruitOil	**0**	**0.5**	**1.0**	**2.0**	**3.0**	**4.0**
Aqua	To 100	To 100	To 100	To 100	To 100	To 100

Table 2: Result of half side tests in a hair salon (intern)

		ComparativeExample	Example1	Example 2	Example 3	Example 4	Example 5
Evaluation	Hardness (dry hair)	8	8.3	8.3	8.2	7.9	7.7
	Elastic(dry hair)	7.0	7.3	7.3	7.6	7.1	6.8
	Shine(dry hair)	7.3	7.2	7.5	8.2	8	7.7
	Curlyretention(dry hair)	7	8	8.1	8.3	7.9	7.8
	Moisture(dry hair)	7	7.2	7.7	8.5	8.4	8
	Nogreasy(dry hair)	7	7.8	7.8	7.8	7.5	7.3

Table 3: Trade name and INCI name of the compounds

Trade name	INCI
TINOGARD TT	Pentaerythrityl Tetra-Di-t-Butyl Hydroxyhydrocinnamate
DISSOLVINE NA2	Disodium EDTA &Water
TWEEN 60-LQ-(SG)	Polysorbate 60
Luviskol K 90 Powder	PVP
1,3 Butylene Glycol Cosmetic Grade	ButyleneGlycol
VARISOFT BTMS	BehentrimoniumMethosulfate (25%) and Cetearyl Alcohol (75%)
SF1000N-350cst	Dimethicone
Pionier 2076	Mineral Oil
ThaiOL 1618	CetearylAlcohol
Cutina GMS	GlycerylStearate
Propylene Glycol	PropyleneGlycol
CarbopolUltrez 21 Polymer	Acrylates/C10-30 Alkyl Acrylate Crosspolymer
Seatons Rosehip Oil REF-LQ-(JL)	**Rosa CaninaFruitOil**
Fragrance	Fragrance
Tegosoft TN B	C12-15 Alkyl Benzoate
PHE-SP10	Phenoxyethanol
Methylparaben	Methylparaben
Sodium hydroxide	Sodium Hydroxide
Polyox WSR-301 Leo NF Grade	PEG-90 M + Silica

It can be clearly seen from table 2 that the addition of rose hip oil to the composition influences the condition of the hair. It is obvious that the effect is depending on the concentration of rose hip oil in the respective composition.

In detail, an amount of 2.0 % by weight of rose hip oil in the respective composition leads to the best results regarding nearly all parameters evaluated.

On one hand parameters referring to styling qualities, such as elasticity and curl retention are evaluated best for example 3, containing 2 % by weight of rose hip oil. Increasing the amount of rose hip oil in the respective compositions (example 4 and 5) leads to evaluations that are becoming worse. Also, amounts of rose hip oil in the range of 0.5 to 1 % by weight in the respective compositions do not lead to evaluations that are as good as seen with the composition according to example 3.The quality of hardness is evaluated best at concentrations of 0.5 and 1.0 % by weight of rose hip oil. But at a concentration of 2.0 % by weight of rose hip oil the evaluation is almost as good as for 0.5 and 1.0 % rose hip oil. Generally the concentration range of 0.5 to 2.0 % of rose hip oil in hair styling compositions is well suited in relation to the parameter of hardness.Summing up, with regard to styling qualities as elasticity, curl retention and hardness there is an optimal amount of rose hip oil of around 2 % by weight in the composition.

On the other hand parameters referring to moisture and shine of hair it is obvious that there is an optimal amount of rose hip oil around the value of 2 % by weight where the hair has enough moisture and a shiny appearance. The parameter non-greasiness is evaluated equally well for a concentration range of 0.5 to 2.0 % of rose hip oil. An evaluation of 1 means very greasy, an evaluation of 10 means not greasy at all.

It can be seen that rose hip oil is used best in styling composition in an amount around 2 % by weight leading to fine styled hair which feels moisturized,

but not greasy.

The above examples of the present invention are provided only for illustrative purposes, and are not intended to limit the invention in any aspect. One skilled in the art should know that, changes and modifications may be carried out to technical solutions of the present invention within the spirit and scope of the present invention.

What is claimed:

1. A composition for styling hair, comprising:
- at least one fixing and/or film-forming polymer,
- at least one fatty alcohol, and
- rose hip oil in an amount of 0.001 to 10.0 % by weight, relative to the total weight of the composition.

2. The composition according to claim 1, characterized in that rose hip oil is contained in an amount of 0.05 to 7.5 % by weight, relative to the total weight of the composition.

3. The composition according to claim 2, characterized in that rose hip oil is contained in an amount of 0.1 to 6.0 % by weight, relative to the total weight of the composition.

4. The composition according to claim 1, characterized in that the composition comprises at least one auxiliary component, selected from silicones,further conditioning components, emulsifiers, preservatives, antioxidants and mixtures thereofand the composition comprises a balance amount of water, so that all the components amount to 100% by weight.

5. The composition according to any of claims 1 to 4, characterized in that the at least one fixing polymer is present in an amount 0.1 to 7.5% by weight, relative to the total weight of the composition.

6. The composition according to claim 5, characterized in that the at least one fixing polymer is present in an amount 0.5 to 5.0% by weight, relative to the total weight of the composition.

7. The composition according to any of claims 1 to 4, characterized in that the at least one fixing polymer is a nonionic fixing polymer.

8. The composition according to claim 7, characterized in that the at least one fixing polymer is a homopolymer of vinyl pyrrolidone.

9. The composition according to any of claims 1 to 4, characterized in that the at least one film-forming polymer is a polymer containing monomers selected from acrylic acid, methacrylic and the respective salts.

10. The composition according to claim 9, characterized in that the at least one film-forming polymer is an acrylates/C10-30 alkyl acrylate crosspolymer.

11. The composition according to any of claims 1 to 4, characterized in that the at least one film-forming polymer is present in an amount of 0.1 to 7.5 % by weight, relative to the total weight of the composition.

12. The composition according to claim 11, characterized in that the at least one film-forming polymer is present in an amount of 0.5 to 5.0 % by weight, relative to the total weight of the composition.

13. The composition according to any of claims 1 to 4, characterized in that the at least one fatty alcohol is present in an amount of 0.01 to 5% by weight, relative to the total weight of the composition.

14. The composition according to claim 13, characterized in that the at least one fatty alcohol is present in an amount of 0.1 to 2.0 % by weight, relative to the total weight of the composition.

15. The composition according to any of claims 1 to 4, characterized in that the

alkyl residue of the at least one fatty alcohol contains 6 to 22 carbon atoms.

16. The composition according to claim 15, characterized in that the alkyl residue of the at least one fatty alcohol contains 14 to 20 carbon atoms.

17. The composition according to claim 4, characterized in that the silicone is at least one dimethicone.

18. The composition according to claim 17, characterized in that the at least one dimethicone is present in an amount of 0.5 to 7.0 % by weight,relative to the total weight of the composition.

19. The composition according to claim 18, characterized in that the at least one dimethicone is present in an amount of 0.75% to 5.0 % by weight, relative to the total weight of the composition.

20. The composition according to claim 19, characterized in that the at least one dimethicone is present in an amount of 1.0 to 4.0 % by weight, relative to the total weight of the composition.

21. The composition according to claim 4, characterized in that at least one further conditioning component is selected from C12-15 alkyl benzoate, ParaffinumLiquidum and PEG90M + silica.

22. Use of the composition according to any of claims 1 to 21 to improve the look of the hair referring to shine and moisture.

23. Use of the composition according to any of claims 1 to 21 to provide a strong hold of the styled hair without generating stiff hair.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2016/092019

A. CLASSIFICATION OF SUBJECT MATTER

A61K 8/9789(2017.01)i; A61K 8/34(2006.01)i; A61K 8/81(2006.01)i; A61K 8/891(2006.01)i; A61Q 5/06(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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)

DATABASE: DWPI, CNABS, CPRSABS, CNTXT, CNKI, CA, EMBASE, PUBMED; KEY WORDS: rose hip oil, A61Q5, hair, styl+, fix+, film, vinyl pyrrolidone,PVP, acrylates/C10-30 alkyl acrylate crosspolymer, carbopol ultrez, pemulen TR, fatty alcohol, cetyl alcohol, stearyl alcohol, myristyl alcohol, arachidyl alcohol, silicone, dimethicone, alkyl benzoate, paraffinum, PEG90M. silica

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2001055580 A1 (OREAL) 27 December 2001 (2001-12-27) see description, paragraphs [0302] and [0309], example 3	1-23
Y	US 2005169866 A1 (DOEPNER-REICHENBACH U ET. AL.) 04 August 2005 (2005-08-04) see abstract, examples 2 and 4	1-8, 13- 23
Y	US 2007202068 A1 (PROCTER & GAMBLE CO) 30 August 2007 (2007-08-30) see description, paragraph [0045], example 2	1-23
Y	FR 2961104 B1 (OREAL) 12 April 2013 (2013-04-12) see examples	1-23
Y	CN 104784064 A (BEIERSDORF AG) 22 July 2015 (2015-07-22) see description, paragraph [0091]	1-23
Y	JP 2013173686 A (MILBON CO LTD) 05 September 2013 (2013-09-05) see description, paragraphs [0009]-[0013]	1-23

☐ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:

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

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 April 2017	**04 May 2017**

Name and mailing address of the ISA/CN	Authorized officer
STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA **6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088** **China**	**WEI,Yi**
Facsimile No. **(86-10)62019451**	Telephone No. **(86-10)62412193**

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2016/092019

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	2001055580	A1	27 December 2001	US	2002176836	A9	28 November 2002
				PL	346288	A1	10 September 2001
				KR	20010089195	A	29 September 2001
				FR	2805990	B1	11 April 2003
				JP	2001247434	A	11 September 2001
				CA	2337289	A1	07 September 2001
				RU	2207837	C2	10 July 2003
				AU	2312001	A	13 September 2001
				BR	0100968	A	30 October 2001
				CN	1314137	A	26 September 2001
				KR	100404643	B1	10 November 2003
				AU	758558	B2	27 March 2003
				EP	1132076	A1	12 September 2001
				FR	2805990	A1	14 September 2001
US	2005169866	A1	04 August 2005	BR	PI0500241	A	11 April 2006
				JP	2005213254	A	11 August 2005
				EP	1426033	A3	15 September 2004
				EP	1426033	A2	09 June 2004
US	2007202068	A1	30 August 2007	WO	2007063520	A2	07 June 2007
				WO	2007063520	A3	18 October 2007
				BR	PI0619087	A2	13 September 2011
				JP	2009516737	A	23 April 2009
				EP	1792640	A1	06 June 2007
				CA	2631798	A1	07 June 2007
				AU	2006321220	B2	09 June 2011
				CN	101321559	A	10 December 2008
				AU	2006321220	A1	07 June 2007
				US	7842286	B2	30 November 2010
FR	2961104	B1	12 April 2013	FR	2961104	A1	16 December 2011
CN	104784064	A	22 July 2015	None			
JP	2013173686	A	05 September 2013	JP	5868214	B2	24 February 2016