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(54) Title: COSMETIC COMPOSITIONS CONTAINING AN AQUEOUS DISPERSION OF SILICONE ELASTOMERS AND METHODS OF USE

(57) Abstract: The present invention provides an anti-aging composition comprising more than 30% by weight of an aqueous dispersion of silicone elastomer and an emollient system and methods of use thereof for improving skin condition.

COSMETIC COMPOSITIONS CONTAINING AN AQUEOUS DISPERSION OF SILICONE ELASTOMERS AND METHODS OF USE

Field of the Invention

The present invention relates to skin care cosmetic compositions and methods. In particular, the present invention relates to novel cosmetic compositions containing an aqueous dispersion of silicone elastomers, and methods of use thereof.

Background of the Invention

In an era that seeks to prolong youth in every possible way, quick remedies for diminishing the appearance of lines and wrinkles due to aging are highly sought. Products incorporate herbal extracts, vitamins, sunscreens and the like, claiming to improve the skin condition by providing anti-aging benefits. Quick remedies often include plastic surgery, Botox® injections and collagen injections. However, such remedies are often painful and too expensive for the average consumer. Therefore, there is still a need for cost-effective skin care products that can be topically applied to provide a quick reduction in the appearance of lines and wrinkles.

Silicone elastomers have been incorporated in skin care systems to create skin softening effects and are typically in silicone based compositions. However, water-based compositions are highly sought because of their moisturizing nature. Although silicone elastomers can be incorporated into the hydrophobic phase of an emulsion, the benefits can be diluted in such form. Moreover, some methods teach the dispersion of fine particles of silicone within a water phase to provide a skin smoothening effect. However, because of the low hydrophilicity of the silicone elastomer particles, uniform dispersability is difficult and therefore the benefits of such silicone particles are diminished. Moreover, the elastomers are only used in low amounts because the systems may become unstable when used in high concentrations. See U.S. Patent No. 5,871,761. Therefore, the smoothening effects of the elastomers are proportionally limited. Further, since the silicone elastomers are hydrophobic, their skin softening effects may be diminished if not used with a suitable combination of ingredients in an aqueous medium.

Therefore, there still exists a need for an anti-aging product that provides a quick reduction in the appearance of lines and wrinkles.

Summary of the Invention

The present invention provides an anti-aging composition comprising more than 30% by weight of an aqueous dispersion of silicone elastomer and an emollient system.

The present invention further provides a method of improving skin condition and reducing the appearance of lines and wrinkles by applying to the skin a composition comprising more than 30% by weight of an aqueous dispersion of silicone elastomer and an emollient system.

Detailed Description

Except in operating and comparative examples, or where otherwise explicitly indicated, all numbers in this description indicating amounts or ratios of material or conditions of reaction, physical properties of materials and/or use are to be understood as modified by the word "about." All amounts are by weight of the final composition, unless otherwise specified.

Certain aqueous dispersions of silicone elastomers have a softening effect when applied onto the skin. By the term softening, it is meant that the human skin feels smoother and softer to the touch after topical application of the aqueous dispersion of silicone elastomers. Such aqueous dispersions are suspended within an aqueous medium to provide skin care benefits in water-based solutions. However, such dispersions inherently peel upon application to the skin, rendering the dispersion unstable on its own. By the term unstable, it is meant that the composition peels or flakes upon application to the skin. Specifically, the dispersion flakes off the skin when applied, which makes the dispersion aesthetically and effectively unappealing for consumers requiring a skin care composition that provides lasting cosmetic benefits.

These dispersions have previously been used in personal care compositions; however, the amount utilized in previously disclosed compositions has been said to be limited to no more than 30% by weight, because stability of water-based compositions may be compromised by higher quantities (US Pat. No. 5,871,761). Applicants have observed that in these high quantities, the composition is considered unstable, whereby upon application of the composition on the skin, peeling and flaking of the composition on the skin is observed, as shown in Table 2 below. However, it was also observed that a substantial enhancement of the

inherent properties of the water-based composition is achieved with the higher amounts of aqueous dispersion used in the composition. In particular, it was unexpectedly observed that compositions containing greater than 30% aqueous dispersion of elastomer not only smooth and mattify the look of skin, but also mask the appearance of lines and wrinkles. Thus, there is substantial motivation to use larger quantities of the elastomer dispersion, if the flaking/instability issue could be solved.

In the present invention, it has been surprisingly found that combining a specific emollient system with the aqueous dispersion of silicone elastomers can stabilize the composition even with a relatively high amount of the dispersion present in the final composition. Moreover, such a combination, when topically applied, surprisingly and rapidly reduces the appearance of lines and wrinkles on human skin, as can be seen in the Examples provided herein below.

As a first essential element, an aqueous dispersion of silicone elastomer is used in the present inventive composition. The aqueous dispersion comprises an aqueous dispersion of cured silicone rubber particles. Such a dispersion is prepared by the in situ crosslinking reaction taking place in fine droplets of a liquid organopolysiloxane precursor for a silicone rubber emulsified in an aqueous medium containing a surfactant. The method of crosslinking can be achieved by methods commonly known to those skilled in the art, but a preferred method is described in U.S. Patent No. 5,871,761, which is incorporated by reference herein. In brief, a liquid precursor of a silicone rubber, which is a mixture or combination of an organopolysiloxane having at least two alkenyl groups bonded to the silicone atoms in a molecule and an organohydro-genpolysiloxane having at least two hydrogen atoms directly bonded to the silicone atoms in a molecule, is first emulsified in an aqueous medium containing a surfactant as an emulsifier under agitation to form an aqueous emulsion, to which a catalytic amount of a platinum compound is added to catalyze the hydrosilation reaction which converts the droplets of liquid silicone rubber precursor into particles of a cured silicone rubber.

The alkenyl groups in the above mentioned alkenyl-containing organopolysiloxane can be vinyl groups or allyl groups, of which vinyl groups are preferred. The organic groups bonded to the silicone atoms in the alkenyl-containing diorganopolysiloxane other than the alkenyl groups preferably monovalent hydrocarbon groups having 1 to 20 carbon atoms free

from aliphatic unsaturation, optionally, substituted for all or a part of the hydrogen atoms in the hydrocarbon groups by halogen atoms. The organopolysiloxane should have at least two of the alkenyl groups in a molecule in order for the liquid silicone rubber precursor to be converted into a cured silicone rubber.

Examples of the unsubstituted or halogen-substituted monovalent hydrocarbon groups free from aliphatic unsaturation include: alkyl groups such as methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, dodecyl, tetradecyl, hexadecyl and octadecyl groups; aryl groups such as phenyl and tolyl groups; aralkyl groups such as 2-phenylethyl and 2-phenylpropyl groups; and halogen-substituted alkyl groups such as 3,3,3-trifluoropropyl, 2-(perfluoro-n-butyl) ethyl and 2-(perfluoro-n-octyl) ethyl groups. Although the monovalent hydrocarbon groups of a single kind or two or more kinds in combination can be present in the alkenyl-containing organopolysiloxane, it is preferable that all or at least 90% by moles of the monovalent hydrocarbon groups other than alkenyl groups are methyl groups, the balance, if any, being phenyl groups.

The organohydrogenpolysiloxane to be combined with the above described alkenyl-containing organopolysiloxane to form a liquid silicone rubber precursor should have at least two hydrogen atoms directly bonded to the silicone atoms in a molecule. The organic groups bonded to the silicone atoms in the organohydrogen polysiloxane molecules can be selected from the unsubstituted or halogen-substituted monovalent hydrocarbon groups free from aliphatic unsaturation as exemplified above relative to the alkenyl-containing organopolysiloxane. It is also preferable that all or at least 90% by moles of the monovalent hydrocarbon groups free from aliphatic unsaturation are methyl groups, the balance, if any, being phenyl groups. The blending proportion of the alkenyl group-containing diorganopolysiloxane and the organohydrogenpolysiloxane is such that the molar ratio of the alkenyl groups in the alkenyl group-containing diorgano-polysiloxane to the silicone-bonded hydrogen atoms in the organohydrogenpolysiloxane is in the range from 0.8 to 1.2.

The crosslinking density in the cured silicone rubber particles is determined by the contents of the alkenyl groups in the alkenyl-containing organopolysiloxane and the silicone-bonded hydrogen atoms in the organohydrogenpolysiloxane, which must be appropriately selected so that the silicone rubber particles formed by the in situ crosslinking reaction may

have a rubber hardness in the JIS A scale in the range from 10 to 90 or, preferably, from 20 to 80 as measured according to the procedure specified in JIS K 6301.

It is a desirable condition that the configuration of the globular silicone rubber particles in the aqueous dispersion is as close to spherical as possible with an aspect ratio, i.e. the ratio of the longer axis to the shorter axis, not exceeding 1.2 or, more desirably, not exceeding 1.1.

The cured silicone rubber particles are silicone elastomers. The average particle size of the cured silicone rubber particles is in the range of from 0.1 to 100 μm or, preferably, from 1 to 10 μm. In the preferred embodiment, the aqueous dispersion contains dimethicone/vinyldimethicone crosspolymers as the cured silicone rubber particles. In the preferred embodiment, more than 30%, preferably at least about 40%, more preferably at least about 60%, of an aqueous dispersion is used that contains dimethicone/vinyldimethicone crosspolymer in an amount of from 1 to 70%, preferably from 10 to 70%, and most preferably from 60% to 70% by weight of the dispersion.

As noted above, the aqueous dispersion of silicone elastomers contains at least one surfactant used in the preparation of the aqueous emulsion of the organohydrogenpolysiloxane. The surfactant may be nonionic, anionic, cationic, or amphoteric in nature, as long as the surfactant is compatible with the surfactant contained in the base mixture of the skin-care water-base composition to which the aqueous dispersion of the silicone elastomer is to be added.

Examples of the nonionic surfactant include polyoxyethylene alkylphenyl ethers, polyoxyethylene alkyl ethers, polyoxyethylene sorbitan fatty esters, glycerine fatty acid esters and the like having an HLB value in the range from 1.5 to 20, preferably from 7 to 19. Examples of anionic surfactants include salts of alkyl sulfates, salts of alkylbenzene sulfonates, salts of dialkyl sulfosuccinates, salts of alkyl phosphoric acids, salts of polyoxyethylene alkyl ether sulfates, polyoxyethylene alkylphenyl ether sulfates and the like. Examples of cationic surfactants include long-chain alkyl trimethyl ammonium chlorides, alkylamine hydrochlorides, alkylamine acetates, long-chain alkyl phenyl dimethyl ammonium chlorides and the like. Examples of the amphoteric surfactants include N-acylamidopropyl-N, N-dimethylammonio beatines, N-acylamidopropyl-N, N'-dimethyl-N'-2-hyroxypropylammonio betaines and the like.

The amount of surfactant is determinative of the particle size distribution of the siloxane droplets and therefore the average particle diameter of the cured silicone rubber particles. Therefore, the amount of surfactant should be selected depending on the desired average particle size of the silicone rubber particles. In the preferred embodiment, the surfactant is nonionic, preferably a polyoxyethylene alkyl ether, and is used in amount between 0.1% to 20% by weight of the composition, preferably from 0.2% to 20%, and most preferably from 10% to 20%. The preferred nonionic surfactant used is C12-C14 pareth-12.

The preferred aqueous dispersion of silicone elastomer in the present invention is dimethicone/vinyldimethicone crosspolymer/C12-C14 Pareth-12/Water, and is available in commercial form from Shin-Etsu Chemical Co., Ltd under the commercial name DC 9509 Silicone Elastomer Suspension.

The second essential element of the present invention is an emollient system. As discussed hereinabove, the aqueous dispersion of silicone elastomers are normally unstable in high concentrations in a water-base composition, as shown in Example 5 discussed below. It has been surprisingly discovered that addition of specific emollients with the aqueous dispersion of silicone elastomers, provides stability to the composition when the aqueous dispersion is used in relatively high amounts. The emollients used are solid and have a melting point close to or at skin temperature, which is about 37°C. While not wishing to be bound by any theories, it is believed that such emollients act as a type of film former to enable a user to spread the inventive composition containing the aqueous dispersion of silicone elastomers onto the skin, while avoiding peeling or flaking upon application. Moreover, such emollients keep the elastomers on the skin after water evaporates. Emollients that are silicone-based would not be compatible, as is shown in Table 3 below.

The emollient system of the present invention contains at least one emollient selected from the list consisting of petrolatum, cocoa butter, beeswax and shea butter. The emollients may each be used alone or in any combination as long as the total in the composition is between 1 to 20%, preferably from 2% to 10% and most preferably from 3% to 7% by weight of the total composition. The preferred emollient system has a combination of shea butter, cocoa butter and beeswax.

The present inventive composition optionally comprises a film forming agent selected to further aid in uniformly distributing the composition upon the skin. Any film forming agent that is water-dispersible may be used. In the preferred embodiment, the film forming agent is selected from the group consisting of Glyceryl Oleate/Propylene Glycol, HDI/Trimethylol Hexyllacetone Crosspolymer/Silica, Sorbitan Sesquioleate, Polyglycerol-3 Diisotearate, Steareth-2, Polysorbate 40, Sorbitan Trioleate, Dimethicone// Dimethicone PEG- 10/15 Crosspolymer, Isododecane// PEG-15/Lauryl Dimethicone Crosspolymer, PEG-11 Methyl Ether Dimethicone, Polyglyceryl-3 Disiloxane Dimethicone, and PEG-10 Dimethicone.

The preferred film forming agent in the present invention is HDI/Trimethylol Hexyllacetone Crosspolymer/Silica and is present in an amount from 0.01% to 20%, preferably from 1% to 15%, and most preferably from 5% to 10% by weight of the composition.

The preferred composition is in the form of an emulsion. In the preferred embodiment, the present invention is in the form of an oil-in-water emulsion, although it is contemplated that the present invention may also be in the form of a water-in-oil or water-in-silicone type emulsion. In the preferred embodiment, the water phase is present in an amount of from 30% to 55%.

The following examples further illustrate the novel compositions and methods of the present invention, but the invention is not limited thereto.

Example 1

The following composition provides an example of a preferred embodiment incorporating the inventive composition in the form of an emulsion. The examples that follow are conducted utilizing the composition below.

Composition

Trade Name	CTFA name	Percent
Deionized Water	Purified Water	14.402500
Glycerine USP 99% (Vegetable)	Glycerin	0.500000
Tristat SDHA	Sodium Dehydroacetate	0.100000
Shea Butter-Ultra Refined	Shea Butter (Butyrospermum Parkii)	2.432500

Cocoa Butter USP	Cocoa Butter	2.432500
Lanette O	Cetearyl Alcohol	0.750000
CS Lipid Complex	Propylene Glycol Dicaprylate/Cucumis Melo (Melon) Fruit Extract/Persea Gratissima (Avacado) Oil/Cholesterol/Potassium Sulfate	0.200000
NAB Cholesterol	Cholesterol	0.200000
Apigenin	Chamomilla Recutita (Matricaria) Extract	0.050000
Phytocohesine	Sodium Beta-Sitosterol Sulfate	0.200000
Biosine	Phytosphingosine/Propylene Glycol Dicaprate	0.200000
Beeswax-White S.P. 422P	Beeswax	0.300000
Patlac IL	Isostearyl Lactate	0.973000
Pationic ISL	Sodium Isostearoyl Lactylate	0.486500
DC 9509 Silicone Elastomer Suspension	Dimethicone/Vinyldimethicone Crosspolymer(63%)/C12-14 Pareth-12(3%)/Water(33%)	60.00000
DL Panthenol	Panthenol	0.486500
Antiglyskin	Water/Helianthus Annuus (Sunflower) Seed Extract	0.486500
Sensiva SC 50	Ethylhexylglycerin	0.500000
Argireline Solution	Water (Aqua Purificata) Purified/Acetyl Hexapeptide-3	0.100000
Diocide	Caprylyl Glycol/Phenoxyethanol/Hexylene Glycol	1.000000
Deliner AELA943S	Water (Aqua Purificata) Purified//Butylene Glycol/Zea Mays (Corn) Kernal Extract	0.500000
Biopeptide EL	Glyceryl Polymethacrylate/PEG-8/Palmitoyl Oligopeptide	0.200000
Siegesbeckia	Glycerin/Water/Siegesbeckia Orientalis Extract	0.500000
Deionized Water	Purified Water	0.500000
K3 Vita-C	Aminopropyl Ascorbyl Phosphate	0.050000
BPD-500	HDI/Trimethylol Hexyllacetone Crosspolymer/Silica	10.00000
Timiron Silk Blue No. 17241	Timiron Silk Blue No. 17241 Mica (77019), Titanium Dioxide (77891)	0.350000
Viscolam AT 64/P	Sodium Acrylate/Sodium Acryloydimethyl Taurate Copolymer/Hydrogenated Polydecene/Laureth-8	1.000000

Silicone HL88	Dimethicone	1.000000

Example 2

The following clinical study is conducted using the composition of the present invention, presented hereinabove. The effects of application of the inventive composition on the skin of women is tested.

Formation of Study Panel:

Adult women who are interested in taking part in this study are recruited from a local population. The following criteria for inclusion and exclusion are based on the information obtained from the candidates and from an examination of the face and hands that are involved in the study.

Inclusion Criteria: To be considered as a potential subject, each candidate must:

- have moderate to deep lines above the lips;
- express willingness to cooperate with the investigator; and
- demonstrates the ability to understand the purpose of the study and what is required of her to bring it to a meaningful conclusion.

Exclusion Criteria: A prospective participant is excluded if the interview or examination disclosed any of the following:

- a systemic illness that contra-indicated participation;
- any dermatological disorders in the areas that were to used in the study;
- pregnant women or lactating mothers;
- use of systemic or topical retinoids, antihistamines or similar agents.

Composition of Panel :

The panel is composed of 24 women who satisfy all the requirements itemized in the list of inclusion and exclusion criteria.

Method of Application:

The women are instructed to apply the product to the area above the lips two times daily, morning and evening. On the day of testing, the women do not apply the product for at least 12 hours before measurements are taken. Product use is monitored by a daily diary as well as assessment of remaining package content at the end of the study.

Clinical Test Procedure:

This is a controlled study which consists of two months product use. The test site is above the lips. The women refrain from using any treatment products on the test site except for the test product provided. Skin evaluations are carried out before treatment (baseline), and one, four and eight weeks during the course of treatment.

Skin Firmness

Skin firmness is assessed with the Ballistometer above the lips. The Ballistometer is an instrument that assesses the dynamic properties of the skin through the measurement of the rebound of a hard object on the surface of the skin. It measures skin elasticity by dropping a very light weight (1-5 grams) pendulum on the skin surface and measuring the rebound pattern of the pendulum via a computer. Once the probe hits the surface of the skin, the kinetic energy of the falling object is stored inside the skin, and is subsequently released to make the probe rebound at a smaller height than the initial starting position. To characterize the interaction between the pendulum and the skin, the differences in the amplitude of the first rebound are analyzed.

Skin Lifting

Skin lifting is measured with a Dermascan C® ultrasonic instrument (Cortex Technology, Hadsund, Denmark). A pulsed 20MHz emission in B-mode is selected to give cross-sectional images of the skin in two dimensions. A template and 1mm gel layer are used to ensure reproducibility of the images from visit to visit. Two images are taken from above the lips at each visit. A built-in image analysis program calculates the density of the dermis.

Lines & Wrinkles

Reduction of lines & wrinkles is assessed and documented with close up photography. Photos of the area above the lips are taken with a Fuji S2 digital camera. Panelists heads are placed in a head rest to insure reproducibility of positioning. The camera is positioned at a ratio of 1:3 at an F stop of 32. Photos are evaluated via an image analysis program, Optimas 6.51, comparing before and after product use. Fine lines and wrinkles are assessed by examining changes in the Integrated Optical Density (IOD) before and after product use. A decrease in IOD represents a decrease in fine lines and wrinkles and vise-versa.

Results:

TABLE 1
Percent Improvement

	1 week	4 weeks	8 weeks
Firmness	13%	21%	27%
Lifting	19%	35%	45%
Lines & Wrinkles	20%	38%	41%

As shown in Table 1 above, the present inventive composition improved skin firmness, skin lifting, and the appearance of lines and wrinkles after 1, 4 and 8 weeks of product use. Specifically, the test results show that the composition of the present invention improves skin firmness by an average of 27%, improves skin lifting by an average of 45% and reduces the appearance of lines and wrinkles by an average of 41% after 8 weeks of product use as compared to pre-treatment.

Example 3

The following example provides the results, in Table 2 of the stability of different amounts of the dispersed silicone elastomer in the commercial composition. As can be seen below, the composition is unstable when the dispersed silicone elastomer reaches a concentration of 30%.

TABLE 2

Sample#	Dispersed Silicone Elastomer%	Dispersed Silicone Elastomer (grams)	Commercial Composition in grams	COMMENTS
1	5%	2.5	47.5	Stable
2	10%	5	45	stable
3	30%	15	35	not stable - peels a little
4	50%	25	25	not stable - peels
5	80%	40	10	not stable - peels
6	90%	45	5	not stable - peels

Example 4

The tables below show the inventive composition with different emollient systems. Table 3 shows the results of the inventive composition without any butters. As can be seen below, the inventive composition, in the absence of butters as emollients, is not stable at 40% of the dispersed silicone elastomer and above. Table 4 shows the inventive composition with methyl trimethicone as an emollient. As can be seen below, the inventive composition with methyl trimethicone as an emollient is not stable at 40% of the dispersed silicone elastomer and above. Table 5 shows the inventive composition with coco-caprylate/caprate as an emollient. As can be seen below, the inventive composition with coco-caprylate/caprate as an emollient is not stable at 40% of the dispersed silicone elastomer and above. Table 6 shows the inventive composition with the inventive emollient system, consisting of a class of butters and waxes. As can be seen below, the inventive composition with the inventive emollient system is stable until 80% of the dispersed silicone elastomer.

TABLE 3

Inventive Composition without butters				
Sample #	Inventive Composition %	Dispersed Silicone Elastomer %		Comments
1	80	20		Stable
2	60	40		not stable – peels a little
3	40	60		not stable – peels
4	20	80		not stable - peels

TABLE 4

Inventive Composition with Methyl Trimethicone				
Sample #	Inventive Composition %	Dispersed Silicone Elastomer %		Comments
1	80	20		stable
2	60	40		not stable - peels a little
3	40	60		not stable - peels a lot
4	20	80		not stable - peels a lot

TABLE 5

Inventive Composition with COCO-CAPRYLATE/CAPRATE				
Sample #	Inventive Composition %	Dispersed Silicone Elastomer %		Comments
1	80	20		stable
2	60	40		not stable - peels a little
3	40	60		not stable - peels a lot
4	20	80		not stable - peels a lot

TABLE 6

Inventive Composition with inventive emollient system				
Sample #	Inventive Composition with inventive emollient system%	Dispersed Silicone Elastomer %		Comments
1	80	20		stable
2	60	40		stable
3	40	60		stable
4	20	80		not Stable - peels a little

What is claimed is:

1. An anti-aging composition comprising:
above 30% by weight of an aqueous dispersion of silicone elastomer; and
an emollient system.

2. The composition of claim 1 wherein the silicone elastomer dispersion is present in an amount of from above 30% to 80% by weight.

3. The composition of claim 1 wherein the aqueous dispersion of silicone elastomer is dimethicone/vinyldimethicone crosspolymer/C12-14 Pareth-12/Water.

4. The composition of claim 1 wherein the anti-aging composition further comprises a film-forming agent, the film-forming agent being a water-dispersible elastomer.

5. The composition of claim 1 wherein the film-forming agent is selected from the group consisting of Glyceryl Oleate/Propylene Glycol, HDI/Trimethylol Hexyllacetone Crosspolymer/Silica, Sorbitan Sesquioleate, Polyglycerol-3 Diisotearate, Steareth-2, Polysorbate 40, Sorbitan Trioleate, Dimethicone// Dimethicone PEG- 10/15 Crosspolymer, Isododecane// PEG-15/Lauryl Dimethicone Crosspolymer, PEG-11 Methyl Ether Dimethicone, Polyglyceryl-3 Disiloxane Dimethicone, and PEG-10 Dimethicone.

6. The composition of claim 1 wherein the emollient system comprises at least one emollient that is a solid and has a melting point at skin temperature.

7. The composition of claim 6 wherein the emollient is selected from the group consisting of petrolatum, cocoa butter, beeswax and shea butter.

8. A method of reducing the appearance of lines and wrinkles comprising applying to the skin a composition comprising:

above 30% by weight of an aqueous dispersion of silicone elastomer; and
an emollient system.

9. The method of claim 8 wherein the dispersion of silicone elastomer is present in an amount of from above 30% to 80% by weight.

10. The method of claim 8 wherein the aqueous dispersion of silicone elastomer is dimethicone/vinyldimethicone crosspolymer/C12-14 Pareth-12/Water.

11. The method of claim 8 wherein the anti-aging composition further comprises a film-forming agent, the film-forming agent being a water-dispersible elastomer.

12. The method of claim 8 wherein the film-forming agent is selected from the group consisting of Glyceryl Oleate/Propylene Glycol, HDI/Trimethylol Hexyllacetone Crosspolymer/Silica, Sorbitan Sesquioleate, Polyglycerol-3 Diisotearate, Steareth-2, Polysorbate 40, Sorbitan Trioleate, Dimethicone// Dimethicone PEG- 10/15 Crosspolymer, Isododecane// PEG-15/Lauryl Dimethicone Crosspolymer, PEG-11 Methyl Ether Dimethicone, Polyglyceryl-3 Disiloxane Dimethicone, and PEG-10 Dimethicone.

13. The method of claim 8 wherein the emollient system comprises at least one emollient that is a solid and has a melting point at skin temperature.

14. The method of claim 13 wherein the emollient is selected from the group consisting of petrolatum, cocoa butter, beeswax and shea butter.

15. A method of improving skin condition comprising applying the skin a composition comprising:
above 30% by weight of an aqueous dispersion of silicone elastomer; and
an emollient system.

16. The method of claim 15 wherein the dispersion of silicone elastomer is present in an amount from above 30% to 80% by weight.

17. The method of claim 15 wherein the aqueous dispersion of silicone elastomer is dimethicone/vinyldimethicone crosspolymer/C12-14 Pareth-12/Water.

18. The method of claim 15 wherein the anti-aging composition further comprises a film-forming agent, the film-forming agent being a water-dispersible elastomer.

19. The method of claim 15 wherein the film-forming agent is selected from the group consisting of Glyceryl Oleate/Propylene Glycol, HDI/Trimethylol Hexyllacetone Crosspolymer/Silica, Sorbitan Sesquioleate, Polyglycerol-3 Diisotearate, Steareth-2, Polysorbate 40, Sorbitan Trioleate, Dimethicone// Dimethicone PEG- 10/15 Crosspolymer, Isododecane// PEG-15/Lauryl Dimethicone Crosspolymer, PEG-11 Methyl Ether Dimethicone, Polyglyceryl-3 Disiloxane Dimethicone, and PEG-10 Dimethicone.

20. The method of claim 15 wherein the emollient system comprises at least one emollient that is a solid and has a melting point at skin temperature.

21. The method of claim 20 wherein the emollient is selected from the group consisting of petrolatum, cocoa butter, beeswax and shea butter.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/013958

A. CLASSIFICATION OF SUBJECT MATTER

A61K 8/89(2006.01)i, A61K 8/04(2006.01)i, A61Q 19/08(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)
IPC8 A61K, A61Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean patents and applications for inventions since 1975

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search terms used)
eKIPASS, Pubmed [(silicone OR dimethicone) AND (emolient OR petrolatum OR cocoa butter OR beeswax OR shea butter) AND skin]

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	WO 01/92376 A1 (SHIN-ETSU CHEMICALS CO., LTD) 6 Dec. 2001 See the example 18 on page 30.	1, 2, 6-9, 13-16, 20, 21 3-5, 10-12, 17-19
Y	WO 02/03950 A2 (THE PROCTER & GAMBLE COMPANY) 17 Jan. 2002 See the example XIII on page 42.	3-5, 10-12, 17-19
A	US 5244598 A (GENERAL ELECTRIC COMPANY) 14 Sep. 1993 See the abstract.	1 - 21
A	US 2003/0007985 A1 (L'OREAL) 9 Jan. 2003 See the abstract.	1 - 21

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of 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
01 AUGUST 2006 (01.08.2006)	**01 AUGUST 2006 (01.08.2006)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer LEE, Mi Jeong Telephone No. 82-42-481-5601

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2006/013958

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 01/92376 A1	06.12.2001	US 20030219395 A1	27.11.2003
		JP 2001342254 A2	11.12.2001
		EP 1291377 A1	12.03.2003
WO 02/03950 A2	17.01.2002	US 20020106385 A1	08.08.2002
		JP 2006152005 A2	15.06.2006
		EP 1299079 A2	09.04.2003
		CN 1444471 A	24.09.2003
		AU 0173285 A5	21.01.2002
US 5244598 A	14.09.1993	US 5244598 A	14.09.1993
		KR 0218028 B1	01.09.1999
		JP 05209058 A2	20.08.1993
		EP 0532256 A1	07.03.1993
		CA 2077774 AA	14.03.1993
		AU 0667049 B2	07.03.1996
US 2003/0007985 A1	09.01.2003	US 20030124155 A1	03.07.2003
		US 6896889 B2	24.05.2005
		JP 2003055132 A2	26.02.2003
		EP 1249227 A1	16.10.2002
		CA 2380676 AA	06.10.2002