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(54) **Title:** ANTI-STATIC SKIN PRODUCTS AND METHOD

(57) **Abstract:** An aqueous or non-aqueous preparation comprising cationic agents to neutralize a negative charge thereby relieving tension in the skin and preventing moisture from escaping. It relieves static-tension in the skin thereby reducing the distance between the pores. The difference between the Present Invention and other water based skin conditioners is the amount of cationic agents used. The Present Invention utilizes much more of these ingredients than other commercial products. This produces the unexpected result of neutralizing the charge on the skin and relieving tension, softening and moisturizing the skin. In its most basic form, it contains no moisturizing or other skin conditioning agents. These products can be added to the Present Invention, or alternatively, the Present Invention may be used as an additive to most currently available commercial aqueous and non-aqueous based skin moisturizers for a synergistic skin softening effect.

**1 TITLE OF INVENTION****2 ANTI-STATIC SKIN PRODUCTS AND METHOD****3 CROSS REFERENCE TO RELATED APPLICATIONS**

**4** a) The Present Application is the PCT international non-provisional  
**5** counterpart of US Provisional Patent Application Serial No. 61/102,011  
**6** filed on 2 October 2008, which is incorporated by reference in its entirety  
**7** herein. The Present Application claims the benefit of and priority to said  
**8** US Provisional Patent Application.

**9** b) The Present Application is a PCT international continuation of my pending  
**10** US non-provisional Patent Application Serial No. 12/475,719 filed on 1  
**11** June 2009, which is incorporated by reference in its entirety herein. The  
**12** Present Application claims the benefit of and priority to said US non-  
**13** provisional patent application.

**14 FIELD OF THE INVENTION**

**15** The Present Invention relates to the field of protective compositions to  
**16** condition dry, cracked, and chapped skin so as to retain moisture, and to  
**17** condition hair.

**18 BACKGROUND OF THE INVENTION**

**19** There is currently a wide variety of moisturizing skin softeners on the  
**20** market. The primary purpose of such products is to prevent moisture from  
**21** escaping from the skin while adding moisture to the skin. The vast majority of  
**22** these commercial products are oil based, or they utilize an oil-water emulsion.  
**23** The effect of these oil based products is to coat the skin with a layer that is  
**24** water impermeable. This water impermeable layer prevents the skin from  
**25** losing water due to evaporation. Most of these preparations use various  
**26** additives that treat skin to make it smooth, moist, and supple. Yet, the skin  
**27** cannot breathe through this impermeable layer. This represents a problem in  
**28** that oxygen must be absorbed through the skin to sustain life.

**29** Better moisturizing skin conditioners are water based, but these are in  
**30** the minority. They employ moisturizing and conditioning agents to treat dry  
**31** and damaged skin. Some of them utilize a very small amount of cationic  
**32** agent in order to minimize the electrostatic effect of using these products.  
**33** Cationic additives are normally not used in oil based preparations. Unlike oil

1 based preparations that work by placing a protective layer over the skin, water  
2 based preparations work by reducing skin tension.

3 If the air is very dry, a person moving through air will accumulate  
4 negatively charged electrons on his skin due to air/skin friction. Should  
5 enough electrons accumulate on the skin, a person's hair will "stand on end."  
6 Having a "like" electrical static charge, the hairs repel each other. Skin cells  
7 exhibit a similar phenomenon. For example, "cracking" of the skin results  
8 from dry skin cells "standing on end," and repelling one another. Dry,  
9 chapped, or broken skin is due to a repulsive force between the cells. This  
10 produces skin tension. The condition is aggravated by a lack of moisture.  
11 The pores open, and moisture escapes. Rubbing one's hands together also  
12 creates an electrostatic charge that makes the skin dry and chapped. The  
13 skin has accumulated an excess of electrons.

14 Hair conditioners work in a different way. When a person wets his or  
15 her hair, the hair tends to "go limp" because water is a plasticizing agent for  
16 hair. Hair conditioners enhance the plasticizing effect. In addition, they add  
17 ingredients to treat hair to make it less brittle.

## 18 **SUMMARY OF THE INVENTION**

19 The Present Invention is an aqueous preparation that comprises  
20 cationic agents to neutralize a negative charge thereby relieving tension in the  
21 skin, allowing the pores to close, and preventing moisture from escaping. It  
22 reduces the distance between the pores. The difference between the Present  
23 Invention and other water based skin conditioners is the amount of cationic  
24 agents used. The Present Invention utilizes much more of these ingredients  
25 than other commercial products. This produces the unexpected result of  
26 neutralizing the charge on the skin and relieving tension. In its most basic  
27 form, it contains no moisturizing or other skin conditioning agents. These  
28 products can be added to the Present Invention, or alternatively, the Present  
29 Invention may be used as an additive to commercial water based skin  
30 softeners.

## 1 DETAILED DESCRIPTION OF THE INVENTION

2 A typical formulation of the product of the Present Invention might  
3 consist of:

4 Celquat SC-240c (Polyquaternium-10)	0-4%
5 Merquat 100	0-11%

6 as the principal ingredients (cationic agents) and:

- 7 • Distilled Water
- 8 • Propylene Glycol
- 9 • Tetrasodium EDTA
- 10 • Polywax
- 11 • Glycerol Monostearate (Glyceryl Stearate)
- 12 • Vanilla
- 13 • Glycerin
- 14 • Germall Plus (Diazolidinyl Urea & Isopropynyl Butylcarbamate)

15 This formulation is typical. Merquat 280 is Polyquaternium-22. Celquat  
16 and Merquat are both strong cationic agents. The formulations created thus  
17 far comprised both Celquat and Merquat. However, it could be useful to have  
18 either agent be the sole active ingredient.

19 Cationic agents other than Celquat and Merquat are known in the art.  
20 These other agents are also useful in the Present Invention either as a  
21 substitute for Celquat and Merquat or as an additive. As mentioned before,  
22 only water based products can utilize cationic agents. The difference between  
23 the Present Invention and other commercial conditioners is the strength of the  
24 cationic effect. This produces the unexpected result of neutralizing the  
25 negative charge of the skin, thereby reducing skin tension (by allowing the  
26 skin cells to reside closer to each other), and closing pores so as to retain  
27 moisture.

28 The basic formulation mainly comprises the cationic agents in an  
29 aqueous base. However, moisturizing and conditioning agents can be added  
30 to the basic formulation. On the other hand, the basic formulation may be  
31 added to other water based skin conditioners to enhance their effect.

32 The Present Invention may be used as a treatment for psoriasis which  
33 is aggravated by dry skin. It may also be used to treat chafed elbows. In  
34 addition, when added to hair conditioners, it enhances the plasticizing effect  
35 by neutralizing any negative charge retained by the hair.

36 Other formulations comprise the following ingredients:

- 1 • Water
- 2 • Cetyl Alcohol
- 3 • Cetrimonium Chloride
- 4 • Polyquaternium – 67
- 5 • Glyceryl Stearate
- 6 • PEG – 100 Stearate
- 7 • Polyquaternium – 22
- 8 • Phenoxyethanol
- 9 • Stearyl Alcohol
- 10 • Benzalkonium Chloride
- 11 • Hydroxypropyl Trimonium Hydrolyzed Soy
- 12 • Methylparaben
- 13 • Propylparaben
- 14 • Butylparaben
- 15 • Ethylparaben
- 16 • Isobutylparaben
- 17 • Sodium Hydroxide
- 18 • Hydrolyzed Algin
- 19 • Chlorella Vulgaris Extract
- 20 • Sea Water
- 21 • Propylene Glycol
- 22 • Euterpe Oleracea (Acai) Fruit Extract
- 23 • Lycium Barbarum (Goji Berry) Fruit Extract
- 24 • Punica Granatum (Pomegranate) Extract
- 25 • Diospyros Kaki (Persimmon) Fruit Extract
- 26 • Fragrance

27

28 Yet, other formulations comprise:

- 29 • Water
- 30 • Isocetyl Behenate
- 31 • Cetyl Alcohol
- 32 • Cetrimonium Chloride
- 33 • Polyquaternium – 67
- 34 • Glyceryl Stearate
- 35 • PEG – 100 Stearate
- 36 • Polyquaternium – 22
- 37 • Phenoxyethanol
- 38 • Stearyl Alcohol
- 39 • Benzalkonium Chloride
- 40 • Hydroxypropyl Trimonium Hydrolyzed Soy
- 41 • Methylparaben
- 42 • Propylparaben
- 43 • Butylparaben
- 44 • Ethylparaben
- 45 • Isobutylparaben
- 46 • Sodium Hydroxide
- 47 • Propylene Glycol

- 1 • Symphytum Officinale (Comfrey) Leaf Extract
- 2 • Centaurea Cyanus (Cornflower) Flower Extract
- 3 • Echinacea Angustifolia Leaf Extract
- 4 • Silybum Marianum (Milk Thistle) Extract
- 5 • Fragrance

6

7 The formulations that follow comprise these generic ingredients:

- 8 • water (used as a solvent and moisturizer);
- 9 • at least one quaternary conditioner;
- 10 • at least one preservative;
- 11 • at least one thickener;
- 12 • an emollient;
- 13 • an emulsifier; and
- 14 • a neutralizing agent to adjust pH as desired.

15 The above formulation has an aqueous base, but one skilled in the art  
16 would know that the formulation may also be non-aqueous. In addition, some  
17 embodiments comprise an antiseptic, an anti-inflammatory agent, an  
18 antioxidant, an astringent, and an agent to promote skin healing, having  
19 cleansing, antibacterial and antiseptic attributes. Also, a fragrance would  
20 probably be added.

21 The quaternary conditioners that are used include (at least one must  
22 be used), without limitation:

- 23 • Polyquaternium-22;
- 24 • Polyquaternium-67;
- 25 • Cetyl Trimethyl Ammonium Chloride;
- 26 • Hydroxypropyl Trimonium Hydrolyzed Soy Protein; and
- 27 • Benzalkonium Chloride.

28 The preservatives used include, without limitation:

- 29 • Phenoxyethanol.
- 30 • Methyloaraben,
- 31 • Butylparben,
- 32 • Ethylparaben,
- 33 • Propylparaben,
- 34 • Isobutylpareben, and

1 • Phenoxyethanol.  
 2 The thickeners used include, without limitation, Cetyl Alcohol, and  
 3 Stearyl Alcohol. The emollients used include, without limitation:

- 4 • Isocetyl Behanate,
- 5 • Water,
- 6 • Hydrolyzed Algin,
- 7 • Chlorella Vulgaris, and
- 8 • C10-30 Cholesterol / Lanosterol Esters.

9 The emulsifiers used include, without limitation, Glyceryl Stearate, and  
 10 PEG-100 Stearate. The neutralizing agent used was a 5% solution of sodium  
 11 hydroxide. Fragrances used were lavender, sandalwood, and honeysuckle.

12 Tables 1 through 10 (*infra*) provide examples of these formulations:

13  
 14 **TABLE 1**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	82% - 94%	Solvent, Moisturizer
Polyquaternium - 67	0.5% - 2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.25% - 1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1% - 3%	Conditioner/Quat
Cetyl Alcohol	1% - 3%	Thickener
C10 - 30 Cholesterol / Lanosterol Esters	0.5% - 2%	Emollient
Glyceryl Stearate, PEG-100 Stearate	1% - 3%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.25% 1%	Conditioner/Quat
Protein		
Benzylkonium Chloride	0.5% - 1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01% - 0.02%	Neutralizing agent

17

**TABLE 2**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	81%-92%	Solvent, Moisturizer
Isoprene Glycol	1%	
Polyquaternium - 67	0.5%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.2%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Cetyl Alcohol	1%-3%	Thickener
C10 - 30 Cholesterol / Lanosterol Esters	0.6%	Emollient
Macadamia Nut Oil	0.4%	
Glyceryl Stearate, PEG-100 Stearate	1.5%-3%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy Protein	0.25%-0.75%	Conditioner/Quat
Pheohydrane	1%	
Benzylkonium Chloride	0.5%-1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.02%	Neutralizing agent

**TABLE 3**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	80%-93%	Solvent, Moisturizer
Polyquaternium - 67	1%-3%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-0.5%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.1%-1%	Thickener
Cetyl Alcohol	2%-4%	Thickener
Water, Hydrolyzed Algin, Chlorella Vulgaris	0.6%-1.4%	Emollient, moisturizer
Extract, Sea Water	Trace	
Glyceryl Stearate, PEG-100 Stearate	1%-3%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Benzylkonium Chloride	0.5%-1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent



**TABLE 4**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	82%-90%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparaben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-4%	Conditioner/Quat
Stearyl Alcohol	0.5	Thickener
Cetyl Alcohol	3%	Thickener
Water, Hydrolyzed Algin, Chlorella Vulgaris	1%	Emollient, moisturizer
Extract, Sea Water	Trace	
Glyceryl Stearate, PEG-100 Stearate	2%-3%	Emulsifier
Phenoxyethanol	Trace	Preservative
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Propylene Glycol, Euterpe Oleracea, (Acai) Fruit Extract, Lycium Barbarum (Goji Berry) Fruit Extract, Punica Granatum (Pomegranate) Extract, Diospyros, Kaki (Persimmon) Fruit Extract	1%	Antiseptic, Anti-inflammatory, Antioxidant, Astringent
Benzylnonium Chloride	0.5%-1.2%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.02	Neutralizing agent
Fragrance	0.5	Fragrance

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**TABLE 5**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	82%-88%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.5%	Thickener
Cetyl Alcohol	3%	Thickener
Water, Hydrolyzed Algin, Chlorella Vulgaris	1%	Emollient, moisturizer
Extract, Sea Water	Trace	
Glyceryl Stearate, PEG-100 Stearate	2.5%	Emulsifier
Phenoxyethanol	Trace	Preservative
Hydroxypropyl Trimonium Hydrolyzed Soy	0.2%-0.75%	Conditioner/Quat
Propylene Glycol, Euterpe Oleracea, (Acai) Fruit Extract, Lycium Barbarum (Goji Berry) Fruit Extract, Punica Granatum (Pomegranate) Extract, Diospyros, Kaki (Persimmon) Fruit Extract	1%	Antiseptic, Anti-inflammatory, Antioxidant, Astringent
Benzylnonium Chloride	0.5%-1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

3

**TABLE 6**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	76%-93%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparaben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1.2%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.1%-1%	Thickener
Cetyl Alcohol	1%-4%	Thickener
Water, Hydrolyzed Algin, Chlorella Vulgaris	0.5%-1.5%	Emollient, moisturizer
Extract, Sea Water	Trace	
Glyceryl Stearate, PEG-100 Stearate	1.5%-4%	Emulsifier
Phenoxyethanol	Trace	Preservative
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Propylene Glycol, Euterpe Oleracea, (Acai) Fruit Extract, Lycium Barbarum (Goji Berry) Fruit Extract, Punica Granatum (Pomegranate) Extract, Diospyros, Kaki (Persimmon) Fruit Extract	1%	Antiseptic, Anti-inflammatory, Antioxidant, Astringent
Benzyklonium Chloride	0.2%-3%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

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**TABLE 7**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	76%-92%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-4%	Conditioner/Quat
Stearyl Alcohol	0.1%-1.5%	Thickener
Cetyl Alcohol	1%-3%	Thickener
Isocetyl Behanate	2%-5%	Emollient
Glyceryl Stearate, PEG-100 Stearate	1%-3.5%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-0.85%	Conditioner/Quat
Benzylnonium Chloride	0.5%-2%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent

**TABLE 8**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	76%-91%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.1%-1%	Thickener
Cetyl Alcohol	1%-3%	Thickener
Isocetyl Behanate	2%-5%	Emollient
Glyceryl Stearate, PEG-100 Stearate	1%-4%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Propylene Glycol, Symphytum, Officinale Leaf Extract, Centaurea Cyanus Extract, Echinacea Angustifolia Leaf Extract, Silybum, Marianum Extract	1%	Skin healing, emollient, soothing, astringent, anti-inflammatory, cleansing, antibacterial and antiseptic attributes
Benzylnonium Chloride	0.5%-1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

**TABLE 9**

<b><u>Ingredient</u></b>	<b><u>Percent</u></b>	<b><u>Functionality</u></b>
Water	77%-89%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methyloaraben, Butylparben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.1%-1%	Thickener
Cetyl Alcohol	1%-3%	Thickener
Isocetyl Behanate	2%-4%	Emollient
Glyceryl Stearate, PEG-100 Stearate	2%-3%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Propylene Glycol, Symphytum, Officinale Leaf Extract, Centaurea Cyanus Extract, Echinacea Angustifolia Leaf Extract, Silybum, Marianum Extract	1%	Skin healing, emollient, soothing, astringent, anti-inflammatory, cleansing, antibacterial and antiseptic attributes
Benzylkonium Chloride	0.5%-2%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

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**TABLE 10**

<b>Ingredient</b>	<b>Percent</b>	<b>Functionality</b>
Water	77%-89%	Solvent, Moisturizer
Polyquaternium - 67	1%-2%	Conditioner/Quat
Phenoxyethanol, Methylparaben, Butylparaben, Ethylparaben, Propylparaben, Isobutylpareben	1%	Preservative
Polyquaternium 22	0.1%-1%	Conditioner/Quat
Cetyl Trimethyl Ammonium Chloride	1%-3%	Conditioner/Quat
Stearyl Alcohol	0.1%-1%	Thickener
Cetyl Alcohol	1%-3%	Thickener
Isocetyl Behanate	2%-4%	Emollient
Glyceryl Stearate, PEG-100 Stearate	2%-3%	Emulsifier
Hydroxypropyl Trimonium Hydrolyzed Soy	0.1%-1%	Conditioner/Quat
Propylene Glycol, Symphytum, Officinale Leaf Extract, Centaurea Cyanus Extract, Echinacea Angustifolia Leaf Extract, Silybum, Marianum Extract	1%	Skin healing, emollient, soothing, astringent, anti-inflammatory, cleansing, antibacterial and antiseptic attributes
Benzylkonium Chloride	0.5%-2%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

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**CLAIMS**

I claim:

1. A skin softening and conditioning product formulation comprising one or more cationic agents in sufficient proportion to the remainder of the product such that, when applied to human skin, said cationic agents have a cationic strength sufficient to fully neutralize any negative electrostatic charge on the skin.
2. The skin softening and conditioning product formulation of claim 1 wherein one cationic agent is Celquat SC-240c (Polyquaternium-10).
3. The skin softening and conditioning product formulation of claim 2 wherein the cationic agent is in the range of 0 to 4 percent of the formulation by weight.
4. The skin softening and conditioning product formulation of claim 1 wherein one cationic agent is Merquat 100.
5. The skin softening and conditioning product formulation of claim 4 wherein the Merquat 100 is in the range of 0 to 11 percent of the formulation by weight.
6. The skin softening and conditioning product of claim 1 wherein one or more cationic agents are selected from the group consisting of:
  - Polyquaternium-22;
  - Polyquaternium-67;
  - Cetyl Trimethyl Ammonium Chloride;
  - Hydroxypropyl Trimonium Hydrolyzed Soy Protein; and
  - Benzalkonium Chloride.
7. The skin softening and conditioning product of claim 1 wherein said product is an aqueous solution.
8. The skin softening and conditioning product of claim 1 further comprising:
  - a) at least one preservative;
  - b) at least one thickener;
  - c) an emollient;
  - d) an emulsifier; and
  - e) a neutralizing agent to adjust pH as desired.

9. The skin softening and conditioning product of claim 8 wherein the at least one preservative is selected from the group consisting of:
  - Methyloaraben,
  - Butylparben,
  - Ethylparaben,
  - Propylparaben,
  - Isobutylpareben, and
  - Phenoxyethanol.
10. The skin softening and conditioning product of claim 8 wherein the at least one thickener is selected from the group consisting of Cetyl Alcohol, and Stearyl Alcohol.
11. The skin softening and conditioning product of claim 8 wherein the at least one emollient is selected from the group consisting of:
  - Isocetyl Behanate,
  - Water,
  - Hydrolyzed Algin,
  - Chlorella Vulgaris, and
  - C10-30 Cholesterol / Lanosterol Esters.
12. The skin softening and conditioning product of claim 8 wherein the emulsifier is Glyceryl Stearate and PEG-100 Stearate.
13. The skin softening and conditioning product of claim 8 wherein the neutralizing agent is sodium hydroxide.
14. The skin softening and conditioning product of claim 1 further comprising an antioxidant.
15. The skin softening and conditioning product of claim 1 further comprising an astringent.
16. The skin softening and conditioning product of claim 1 further comprising an agent to promote skin healing, having cleansing, antibacterial and antiseptic attributes.
17. The skin softening and conditioning product of claim 1 further comprising a fragrance.
18. The skin softening and conditioning product of claim 6 wherein the amount of Polyquaternium-22 ranges from 0.1% to 1.2% by weight.



19. The skin softening and conditioning product of claim 6 wherein the amount of Polyquaternium-67 ranges from 0.5% to 3% by weight.
20. The skin softening and conditioning product of claim 6 wherein the amount of Cetyl Trimethyl Ammonium Chloride ranges from 1% to 4% by weight.
21. The skin softening and conditioning product of claim 6 wherein the amount of Hydroxypropyl Trimonium Hydrolyzed Soy Protein ranges from 0.1% to 1% by weight.
22. The skin softening and conditioning product of claim 6 wherein the amount of Benzalkonium Chloride ranges from 0.2% to 3% by weight.

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2009/045881****A. CLASSIFICATION OF SUBJECT MATTER***A61K 8/84(2006.01)i, A61Q 19/00(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)

IPC: A61K 8/84, A61Q 19/00

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

KOMPASS(KIPO net), Google Patent

**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 00/48555 A2(THE PROCTER & GAMBLE COMPANY) 24 AUGUST 2000 See column 10, line 21 - column 13, line 25, examples I to IV and claims	1-19 20-22
Y A	US 2001/0031787 A1(HSU, T.M., et al.) 18 OCTOBER 2001 See abstract and [0014]	20,22 1-19,21
Y A	US 5635469 A(FOWLER, T.J., et al.) 03 JUNE 1997 See abstract and column 7, line 40 - column 10, line 34	21 1-20,22
A	US 2006/0034792 A1(LAZZERI, P., et al.) 16 FEBRUARY 2006 See abstract	1-22

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

\* Special categories of cited documents:

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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