

**(12) STANDARD PATENT**  
**(19) AUSTRALIAN PATENT OFFICE**

(11) Application No. **AU 2009300281 B2**

(54) Title  
**Anti-static skin products and method**

(51) International Patent Classification(s)  
**A61K 8/84** (2006.01) **A61Q 19/00** (2006.01)

(21) Application No: **2009300281** (22) Date of Filing: **2009.06.01**

(87) WIPO No: **WO10/039291**

(30) Priority Data

(31) Number	(32) Date	(33) Country
<b>61/102,011</b>	<b>2008.10.02</b>	<b>US</b>

(43) Publication Date: **2010.04.08**

(44) Accepted Journal Date: **2013.09.05**

(71) Applicant(s)  
**Trutek Corp.**

(72) Inventor(s)  
**Wahi, Ashok**

(74) Agent / Attorney  
**Hodgkinson McInnes Patents, Level 21 201 Elizabeth Street, SYDNEY, NSW, 2000**

(56) Related Art  
**WO 2000/048555 A2 (THE PROCTOR AND GAMBLE COMPANY) 24 August 2000**

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

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
8 April 2010 (08.04.2010)

(10) International Publication Number  
**WO 2010/039291 A1**

(51) International Patent Classification:

A61K 8/84 (2006.01) A61Q 19/00 (2006.01)

(21) International Application Number:

PCT/US2009/045881

(22) International Filing Date:

1 June 2009 (01.06.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/102,011 2 October 2008 (02.10.2008) US

(71) Applicant (for all designated States except US):  
**TRUTEK CORP.** [US/US]; 26 Polhemus Drive, Hillsborough, NJ 08844 (US).

(72) Inventor: **WAHL, Ashok**; 26 Polhemus Drive, Hillsborough, NJ 08844 (US).

(74) Agent: **KREMEN, Stanley, H.**; 4 Lenape Lane, East Brunswick, NJ 08816 (US).

(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, BR, BW, BY, BZ,

CA, CH, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

— with information concerning one or more priority claims considered void (Rule 26bis.2(d))

(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.



WO 2010/039291 A1

**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.

## DETAILED DESCRIPTION OF THE INVENTION

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

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

as the principal ingredients (cationic agents) and:

- Distilled Water
- Propylene Glycol
- Tetrasodium EDTA
- Polywax
- Glycerol Monostearate (Glyceryl Stearate)
- Vanilla
- Glycerin
- Germall Plus (Diazolidinyl Urea & Isopropynyl Butylcarbamate)

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

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

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

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

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

- Symphytum Officinale (Comfrey) Leaf Extract
- Centaurea Cyanus (Cornflower) Flower Extract
- Echinacea Angustifolia Leaf Extract
- Silybum Marianum (Milk Thistle) Extract
- Fragrance

The formulations that follow comprise these generic ingredients:

- water (used as a solvent and moisturizer);
- at least one quaternary conditioner;
- at least one preservative;
- at least one thickener;
- an emollient;
- an emulsifier; and
- a neutralizing agent to adjust pH as desired.

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

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

- Polyquaternium-22;
- Polyquaternium-67;
- Cetyl Trimethyl Ammonium Chloride;
- Hydroxypropyl Trimonium Hydrolyzed Soy Protein; and
- Benzalkonium Chloride.

The preservatives used include, without limitation:

- Phenoxyethanol.
- Methyloaraben,
- Butylparben,
- Ethylparaben,
- Propylparaben,
- Isobutylpareben, and

- Phenoxyethanol.

The thickeners used include, without limitation, Cetyl Alcohol, and Stearyl Alcohol. The emollients used include, without limitation:

- Isocetyl Behanate,
- Water,
- Hydrolyzed Algin,
- Chlorella Vulgaris, and
- C10-30 Cholesterol / Lanosterol Esters.

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

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

**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, Butylparaben, 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 Protein	0.25% 1%	Conditioner/Quat
Benzylkonium Chloride	0.5% - 1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01% - 0.02%	Neutralizing agent



**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, Butylparben, 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
Benzylkonium Chloride	0.5%-1.2%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.02	Neutralizing agent
Fragrance	0.5	Fragrance

**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
Benzylkonium Chloride	0.5%-1.5%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

**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, Butylparben, 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
Benzylkonium Chloride	0.2%-3%	Conditioner/Quat/Neut. Agent
Sodium Hydroxide	0.01%	Neutralizing agent
Fragrance	0.5%	Fragrance

**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, Butylparaben, 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
Benzylkonium 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, 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%-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
Benzylkonium 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

**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

2009300281 13 Aug 2013

**CLAIMS**

1. A skin softening and conditioning product formulation comprising one or more cationic agents selected from the group consisting of:
  - Polyquaternium-22 in an amount of 0.1% to 1.2% by weight;
  - Polyquaternium-67 in an amount of 0.5% to 3% by weight;
  - Cetyl Trimethyl Ammonium Chloride in an amount of 1% to 4% by weight;
  - Hydroxypropyl Trimonium Hydrolyzed Soy Protein in an amount of 0.1% to 1% by weight; and
  - Benzalkonium Chloride in an amount of 0.2% to 3% by weight.

wherein, the one or more cationic agents are present 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. A skin softening and conditioning product formulation of claim 1 wherein one cationic agent is Celquat SC-240c (Polyquaternium-10).
3. A 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. A skin softening and conditioning product formulation of claim 1 wherein one cationic agent is Merquat 100.
5. A 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. A skin softening and conditioning product of claim 1 wherein said product is an aqueous solution.
7. A 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



2009300281 13 Aug 2013

e) a neutralizing agent to adjust pH as desired.

8. A skin softening and conditioning product of claim 7 wherein the at least one preservative is selected from the group consisting of:
  - Methyloaraben,
  - Butylparben,
  - Ethylparaben,
  - Propylparaben,
  - Isobutylpareben, and
  - Phenoxyethanol.
9. A skin softening and conditioning product of claim 7 wherein the at least one thickener is selected from the group consisting of Cetyl Alcohol, and Stearyl Alcohol.
10. A skin softening and conditioning product of claim 7 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.
11. A skin softening and conditioning product of claim 7 wherein the emulsifier is Glyceryl Stearate and PEG-100 Stearate.
12. A skin softening and conditioning product of claim 7 wherein the neutralizing agent is sodium hydroxide.
13. A skin softening and conditioning product of claim 1 further comprising an antioxidant.
14. A skin softening and conditioning product of claim 1 further comprising an astringent.
15. A skin softening and conditioning product of claim 1 further comprising an agent to promote skin healing, having cleansing, antibacterial and antiseptic attributes.

2009300281 13 Aug 2013

16. A skin softening and conditioning product of claim 1 further comprising a fragrance.

\* \* \* \* \*