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- (71) Applicant: **HANNA ISUL SKIN THERAPY, INC.**
[US/US]; 6333 Camp Bowie Blvd., Suite 307, Fort Worth,
TX 76116 (US).
- (72) Inventor: **CHONG, Myong, Hun**; 6114 Pennsylvania
Ave., Arlington, TX 76017 (US).
- (74) Agent: **GUNTER, Charles, D., Jr.**; Whitaker, Chalk,
Swindle & Sawyer, LLP, 3500 City Center Tower II, 301
Commerce Street, Forth Worth, TX 76102-4186 (US).
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(54) Title: COSMETIC REJUVENATING AND HEALING PRODUCT, METHOD OF ITS MANUFACTURE AND USES THEREOF

(57) Abstract: A cosmetic composition is shown for rejuvenating the appearance of skin with reduced or minimal potential for skin irritation, in the form of a lotion or cream which includes as a major component aloe vera as well as vitamins A, B, C, D and E.

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COSMETIC REJUVENATING AND HEALING PRODUCT,
METHOD OF ITS MANUFACTURE AND USES THEREOF

Description

Technical Field

The present invention relates to a cosmetic composition for rejuvenating the appearance of skin with reduced or minimal potential for skin irritation, preferably in the form of a lotion or creme, which includes as a major component aloe vera as well as Vitamins A,B,C,D and E.

Background Art

Conventional treatment of, or attempted prevention of, normal tissue damage caused by, for example, UV radiation of the sun, over-exfoliated, peeled and lasered skin tissue, and the like, is currently confined to the application of bland moisturizing creams designed only to minimize infection to the damaged site or to prevent itching and subsequent scratching by the affected individual. Such treatment can at best only offer symptomatic relief and a barrier to assist prevention of secondary infection at the affected site.

Additionally, conventional creams or ointments are designed to deliver an active component only to the epidermal surface of the skin or, at best, to provide limited delivery through the surface skin layers. Most cosmetic formulations currently available utilize an intimate dispersion or solution of the active components or components in a suitable oily medium or a water/oil or oil/water emulsion. Thus the formulation is presented to the epidermal surface in a form likely to penetrate only into the outer layer of the epidermis.

A need exists, therefore, for a cosmetic formulation which will treat all skin types deep beneath the surface layer of the epidermis to restore, balance and hydrate the skin, returning the skin to its normal, healthy level.

A need also exists for such a cosmetic formulation which exhibits a similar beneficial effect when applied to burns, stings, rashes, infections, acne and other

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skin irritations.

5 A need also exists for such a cosmetic formulation which relieves itching and other discomforts suffered after laser or face lift surgery and glycolic or chemical peels which acts swiftly to aid the healing process immediately upon contact.

A need exists for such a cosmetic formulation which contains non-oily, natural ingredients yet exhibits an extended shelf life without prematurely degrading.

10 A need also exists for such a formulation which contains a sun supplement to help protect the skin from damage from the harmful effects of the sun.

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Disclosure of Invention

The present invention is a cosmetic composition for rejuvenating the appearance of skin with reduced or minimal potential for skin irritation, preferably in the form of a lotion or cream, which includes as a major component aloe vera as well as
5 Vitamins A, B, C, D and E. Preferably, the cosmetic composition contains greater than about 50% aloe vera and as well as each of the vitamins A, B, C, D and E as an essential component. The major components of the composition are non-oily, natural ingredients and yet the formulation of the invention has an extended shelf
10 life. The non-oily nature of the formulation allows the active ingredients to penetrate the human epidermis to a greater relative depth than prior oil-based formulations.

Additional objects, features and advantages will be apparent in the written description which follows.

Best Mode for Carrying Out the Invention

The cosmetic formulations of the invention aid in relieving skin irritation, acne, swelling, bruising, infection, burns, stings and rashes of the epidermis. The cosmetic formulations are also beneficial in treating the deleterious effects of
20 glycolic or chemical peels, and relieve itching after laser surgery or face lift surgery immediately upon contact. While other products cleanse and moisturize at the surface level, the formulations of the present invention restore, balance and hydrate the human epidermis at a deeper level, returning it to its normal healthy state.

25 The cosmetic formulations of the invention utilize pure botanical essences and vitamins to provide gentle, fragrant and soothing compositions which aid the skin's ability to heal itself. The formulations of the invention nurture and nourish the skin so that within a short period of time the skin appears younger, healthier, more firm and glowing. For the first time, Applicant has combined each of the vitamins A, B,
30 C, D and E as an essential component within a natural ingredient based recovery ointment which has an extended shelf life.

The formulations of the invention contain a natural base ingredient which is

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combined with other ingredients to achieve a synergistic result. The base ingredient is aloe vera extract.

Aloe vera is a well known extract from the aloe plant and occurs naturally in nature.

5 The aloe leaf consists of three primary sections: the rind (photosynthesis) with sap contained in the pericyclic transport tubules (xylem and phloem), the mucilage (container) layer and the parenchyma or gel fillet (storage) layer. It is believed that the beneficial properties of the plant extract are the result of the synergistic actions of at least 75 known ingredients, including polysaccharides, steroids, organic acids, 10 enzymes, antibiotic agents, amino acids and minerals. Glucomannan, one special complex polysaccharide composed largely of the sugar mannose, interacts with special cell-surface receptors on those cells which repair damaged tissues, called fibroblasts, stimulating them, activating their faster growth and replication. Plant hormones in aloe, called gibberellins, also accelerate healing by cell replication. 15 Various other beneficial effects of the aloe vera plant extract are reported in the literature. The aloe vera component of Applicant's formulation is present in the range from about 50-75 % by volume, preferably in an amount greater than about 50% by volume, and most preferably about 60% by volume, based upon the total volume of the cosmetic formulation.

20 Applicant's cosmetic formulations present the positive healing properties of the aloe extract in combination with a synergistic active ingredient formulation which allows the active ingredients to penetrate more deeply into the epidermis to provide a deeper, longer lasting healing effect. The additional components of the formulation 25 will be discussed in turn below.

Deionized water is purified water having almost all solids removed by an ion-exchange process and is widely used in the laboratory environment. It is present in the range from about 5 to 25%, most preferably about 15.5% by volume, based 30 upon the total volume of the cosmetic formulation.

Cetearyl alcohol, also known as cetostearyl alcohol, and polysorbate 60 (polyoxyethylene sorbitan monostearate) are emollient and emulsion stabilizers used

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in many cosmetic preparations. This component of the formulation of the invention is preferably present in the range from about 0.1 to 5% by volume, most preferably about 1% by volume.

5 Isopropyl palmitate is a mixture of solid organic acids obtained from fats consisting chiefly of palmitic acid with varying amounts of stearic acid. It is used in various products as an emollient and texturizer. This component is present in the range from about 2 to 5%, most preferably about 3%.

10 Glycerine is a viscous, crystalline liquid formed when fat molecules split, forming free fatty acids and glycerine. It is commercially available from a number of sources and serves as a humectant. Glycerine is present in the range from about 1 to 5% by volume, most preferably about 3% by volume.

15 Cetyl alcohol is an emollient and emulsion stabilizer used in various cosmetic compositions and is present in the range from about 2 to 7% by volume, most preferably about 5% by volume.

20 Shea butter is a slightly ivory granulated butter consisting of mostly triglycerides, including a fair amount of linoleic acid, and unsaponifiables. It is present in the formulations of the invention in the range from about 1 to 5% by volume, most preferably about 2% by volume, based upon the total volume of the formulation.

25 The glyceryl stearate/PEG 100 Stearate are commercial emulsifiers present in the range from about 1 to 5%, most preferably about 3% by volume.

Cyclomethicone is a widely used silicone agent found in hair and skin care products and is present in the formulations of the invention in the range from about 0.5 to 5% by volume, preferably about 2% by volume.

30 The phenoxyethanol, methylparaben, ethylparaben, butylparaben, propylparaben and isobutylparaben components of the formulations of the invention are commercially available preservatives present in the range from about 0.5 to 3%,

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most preferably about 0.7% by volume.

5 The jojoba oil component of the formulations of the invention is an oil extracted from the bean-like seeds of the desert shrub, *Simmondsia Chinensis*. It can be pressed into a golden, naturally liquid wax. As a lubricant, it has been used in the past as a substitute for carnauba wax and beeswax. It is present in the formulations of the invention in the range from about 0.5 to 3%, most preferably about 1% by volume.

10 Avocado oil is extracted from the fruit of the tree, *Persea americana*. It is a vegetal oil used in moisturizers and facial creams. It is clear, light and non-tacky with quick penetration characteristics. It is present in the range from about 0.1 to 3% by volume, preferably about 0.5% by volume.

15 Lanolin oil is a yellowish-white fatty substance obtained from the wool of sheep. This component is present in the range from about 0.1 to 3% by volume, preferably about 0.5% by volume.

20 Hydrogenated Castor Oil, $C_3H_5(C_{18}H_{35}O_2)_3$, is widely used for manufacturing cosmetics, shoeshines and other products as well as for making 12-hydroxy stearic acid. It is present in the range from about 0.1 to 3%, most preferably about 0.5%.

25 Demethicone is another commercially available silicone agent used as an ointment base. It is present in the range from about 0.1 to 3% by volume, preferably about 1% by volume.

Tocopheryl acetate is a source of Vitamin E. It has known antioxidant properties and is present in the range from about 0.1 to 2% by volume, preferably about 0.2% by volume.

30 Orange oil is used as a flavor or scent additive and contains enzymes which purify the skin in the formulations of the invention and is present in the range from about 0.1 to 2% by volume, preferably about 0.5% by volume.

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Panthenol, also known as dexpanthenol is a Vitamin B complex factor used in hair products and in emollients. It is present in the range from about 0.1 to 2% by volume, preferably about 0.2% by volume.

5 Retinyl palmitate is the ester of Vitamin A and palmitic acid. It is present in the range from about 0.1 to 1% by volume, preferably about 0.2% by volume.

10 Cholecalciferol or ergocalciferol is a white, colorless crystal found in plants and years having Vitamin D activity. It is present in the range from about 0.05 to 0.5% by volume, preferably about 0.1% by volume.

15 Ascorbyl palmitate is an anti-oxidant and source of Vitamin C and is present in the formulations of the invention in the range from about 0.05 to 2% by volume, most preferably about 0.1% by volume.

In a particularly preferred form, the cosmetic rejuvenating formulation of the invention comprises:

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RECOVERY OINTMENT		
INGREDIENTS	FUNCTION	PERCENTAGE
1. ALOE VERA GEL	MOISTURIZER, HEALING	60%
2. DEIONIZED WATER	SOLVENT	15.5%
5 3. CETYL ALCOHOL	EMULSIFIER	5%
4. GLYCERIN	HUMECTANT	3%
5. ISOPROPYL PALMITATE	EMOLLIENT	3%
6. GLYCERYL STEARATE/PEG 100 STEARATE	EMULSIFIER	3%
10 7. SHEA BUTTER	EMOLLIENT	2%
8. CYCLOMETHICONE	EMOLLIENT	2%
9. JOJOBA OIL	EMOLLIENT	1%
10.CETEARYL ALCOHOL AND POLYSORBATE 60	EMULSIFIER	1%
15 11.DEMETHICONE	EMOLLIENT	1%
12. PHENOXYETHANOL, METHYLPARABEN, ETHYLPARABEN, BUTYLPARABEN, PROPYLPARABEN AND ISOBUTYLPARABEN	PRESERVATIVE	0.7%
20 13.AVOCODO OIL	EMOLLIENT	0.5%
14.LANOLIN OIL	EMOLLIENT	0.5%
15.PEG-40 HYDROGENATED CASTOR OIL	SOLUBILIZER	0.5%
16.ORANGE OIL	FRAGRANCE	0.5%
17.DL PANTHENOL	HUMECTANT, VITAMIN B5	0.2%
25 18.TOCOPHERYL ACETATE	ANTIOXIDANT, VITAMIN E	0.2%
19.RETINYL PALMITATE	SKIN PROTECTANT, VITAMIN A	0.2%
20.CHOLECALCIFEROL V-D	ABSORPTION, VITAMIN D	0.1%
21. ASCORBYL PALMITATE	ANTIOXIDANT, VITAMIN C	0.1%

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An invention has been provided with several advantages. The formulations of the invention contain non-oily, natural ingredients that penetrate the epidermis to provide improved healing properties for skin irritations, acne, bruising and swelling as well as the inflammation caused from trauma to the skin following surgical procedures. The formulations assist in burn healing and in the treatment of stings, rashes, eczema, psoriasis and heat rash. Despite the use of natural active ingredients, the formulations of the invention have an extended shelf life of 3 years or more. The unique combination of Vitamins A,B,C,D and E produces a synergistic effect in achieving the desired results mentioned above.

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While the invention has been shown in only one of its forms, it is not thus limited but is susceptible to various changes and modifications without departing from the spirit thereof.

Claims

What is claimed is:

1. A cosmetic formulation comprising:

5 a non-oily base comprising greater than about 50% by volume, based upon the total volume of the formulation, of aloe vera extract;

from about 0.1 to 1.0% by volume of tocopheryl acetate as a source of Vitamin E;

10 from about 0.1 to 0.5% by volume of retinyl palmitate as a source of Vitamin A;

from about 0.05 to 0.5% by volume of ascorbyl palmitate as a source of Vitamin C;

from about 0.1 to 2.0% panthenol as a source of Vitamin B;

from about 0.05 to 0.5% cholecalciferol as a source of Vitamin D;

15 the balance being emulsifier, emollients and preservatives.

2. The cosmetic formulation of claim 1, further comprising:

as additional ingredients, cetearyl alcohol, Polysorbate 60, isopropyl palmitate, glycerine, cetyl alcohol and shea butter.

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3. The cosmetic formulation of claim 2, further including as additional ingredients:

glyceryl stearate, PEG 100 Stearate, cyclomethicone, jojoba oil, avocado oil and lanolin oil.

25 4. The cosmetic formulation of claim 3, wherein the preservatives present in the formulation include phenoxyethanol, methylparaben, ethylparaben, butylparaben, propylparaben and isobutylparaben.

5. The cosmetic formulation of claim 4, further comprising as additional ingredients:

30 demethicone and orange oil.

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6. A cosmetic formulation consisting essentially of:

a non-oily base comprising approximately 60% by volume, based upon the total volume of the formulation, of aloe vera extract;

from about 0.1 to 1.0% by volume of tocopheryl acetate as a source of Vitamin E;

from about 0.1 to 0.5% by volume of retinyl palmitate as a source of Vitamin A;

from about 0.05 to 0.5% by volume of ascorbyl palmitate as a source of Vitamin C;

from about 0.1 to 2.0% panthenol as a source of Vitamin B;

from about 0.05 to 0.5% cholecalciferol as a source of Vitamin D;

the balance being emulsifier, emollients and preservatives.

7. The cosmetic formulation of claim 6, further comprising:

as additional ingredients, cetearyl alcohol, Polysorbate 60, isopropyl palmitate, glycerine, cetyl alcohol and shea butter.

8. The cosmetic formulation of claim 7, further including as additional ingredients:

glyceryl stearate, PEG 100 Stearate, cyclomethicone, jojoba oil, avocado oil and lanolin oil.

9. The cosmetic formulation of claim 8, wherein the preservatives present in the formulation include phenoxyethanol, methylparaben, ethylparaben, butylparaben, propylparaben and isobutylparaben.

10. The cosmetic formulation of claim 9, further comprising as additional ingredients:

dimethicone and orange oil.

11. A cosmetic technique for rejuvenating the appearance of human epidermis with reduced or minimal potential for skin irritation, in the form of a cream which includes as a major component aloe vera as well as vitamins A,B,C,D and E, the technique comprising the steps of:

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formulating a cosmetic cream comprising:

a non-oily base comprising greater than about 50% by volume, based upon the total volume of the formulation, of aloe vera extract;

5 from about 0.1 to 1.0% by volume of tocopheryl acetate as a source of Vitamin E;

from about 0.1 to 0.5% by volume of retinyl palmitate as a source of Vitamin A;

10 from about 0.05 to 0.5% by volume of ascorbyl palmitate as a source of Vitamin C;

from about 0.1 to 2.0% panthenol as a source of Vitamin B;

from about 0.05 to 0.5% cholecalciferol as a source of Vitamin D;

the balance being emulsifier, emollients and preservatives;

applying the cosmetic cream to affected areas of the human epidermis; and

15 wherein the non-oily base provides a mechanism for penetrating the human epidermis to a greater relative depth than oil-based cosmetic formulations.

12. The technique of claim 11, wherein the cosmetic formulation consists essentially of:

20 a non-oily base comprising approximately 60% by volume, based upon the total volume of the formulation, of aloe vera extract;

from about 0.1 to 1.0% by volume of tocopheryl acetate as a source of Vitamin E;

from about 0.1 to 0.5% by volume of retinyl palmitate as a source of Vitamin A;

25 from about 0.05 to 0.5% by volume of ascorbyl palmitate as a source of Vitamin C;

from about 0.1 to 2.0% panthenol as a source of Vitamin B;

from about 0.05 to 0.5% cholecalciferol as a source of Vitamin D;

the balance being emulsifier, emollients and preservatives.

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INTERNATIONAL SEARCH REPORT

International application No. PCT/US03/30706

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : A61K 31/07, 31/19, 35/78, 6/00
 US CL : 424/401, 736; 514/63, 725, 557
 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)
 U.S. : 424/401, 736; 514/63, 725, 557

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)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,630,163 B1 (MURAD) 07 October 2003 (07.10.2003), column 5, line 64 - column 15, line 7; Examples.	1-12
Y	US 6,495,122 B2 (FANKHAUSER et al) 17 December 2002 (17.12.2002), Examples.	1-12

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search 15 December 2003 (15.12.2003)	Date of mailing of the international search report 20 MAY 2004
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Sreeni Padmanabhan <i>S. Roberts for</i> Telephone No. 703-308-0196
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INTERNATIONAL SEARCH REPORT

PCT/US03/30706

Continuation of B. FIELDS SEARCHED Item 3:

WEST

search terms: aloe, tocopheryl acetate, retinyl palmitate, ascorbyl palmitate, panthenol, cholercalciferol, emulsifier, emollients, preservative, cetearyl, polysorbate, isopropyl palmitate, glycerine, shea butter, paraben, demethicone, orange oil