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(54) Title: COSMETIC COMPOSITION CONTAINING HYDROXYACIDS

(57) Abstract

A cosmetic composition is provided which comprises one or more keratolytic agent and a combination of water-soluble and water-insoluble anti-irritancy agents in a cosmetically acceptable carrier. Most effective is a combination of a C_7-C_{30} β-hydroxy carboxylic acids such as salicylic acid with a C_1-C_{25} α-hydroxy carboxylic acid such as glycolic or lactic acids. The water-soluble anti-irritancy agent is preferably a salt of glycyrrhizinic acid. The water-insoluble anti-irritancy agent is preferably α-bisabolol, azulene or combinations thereof. Other performance components may include a C_1-C_{10} alkyl lactate and an antimicrobial agent such as a zinc or aluminum salt.

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Cosmetic composition containing hydroxyacids.

The invention relates to a cosmetic composition that when applied to the skin, especially the face, is effective against pimples and redness.

Pimples and reddened skin areas are of great concern to both juveniles and adults. These skin problems can arise either from disease conditions or as a result of skin changes associated with aging or hormonal changes. Disease conditions include those of dry skin, ichthyosis, eczema, palmar and plantar hyperkeratoses, dandruff, acne and warts. Skin changes associated with aging may include such symptoms as age spots, wrinkling and related aging changes.

U.S. Patent 4,105,782, U.S. Patent 4,105,783, U.S. Patent 4,021,572, U.S. Patent 3,879,537, U.S. Patent 3,920,835, U.S. Patent 3,984,470 and U.S. Patent 3,988,470, all to Van Scott and Yu, report on the use of α-hydroxyacids for the treatment of diseased skin. These patents especially focus upon lower molecular weight α-hydroxyacids such as lactic and glycolic acids. Ammonium salts were found to be more effective than the free acid, and both of the aforementioned forms were said to be substantially better than the alkali metal salts. A problem with this technology is that when the α-hydroxyacids are present at levels sufficient to be effective, they cause a stinging sensation and even redness on the skin. Indeed, the art considers the stinging and redness as a sign of effective performance. Consumers, of course, would prefer performance without side effects.

More recently, U.S. Patent 5,091,171 (Yu et al) disclosed the use of α-hydroxyacids for treatment of non-disease conditions.

A rich source of literature is available that describes treatment of acne vulgaris. For instance, U.S. Patent 4,536,399 (Flynn et al) reports the combination of benzoyl peroxide or salicylic acid with fumed silica intended to treat oily skin. Benzoyl peroxide based anti-acne compositions with irritation suppressants are described in U.S. Patent 4,545,990 (Le Foyer de Costil et al). U.S. Patent 4,608,370 (Aronsohn) reports removal of at least some blemishes and the imparting of a useful, healthy complexion with a composition of salicylic acid, resorcinol, lactic acid and ethyl alcohol. Other acne treatments are reported in U.S. Patent 4,613,592 and U.S. Patent 4,772,592, both to Benzoni. These treatments utilize C_1-C_4 alkyl lactates as the active ingredient in a water-in-oil emulsion.

A slightly different approach is found in U.S. Patent 5,057,502 (Walsh) which utilizes Juniper extract materials to thin heavy oily, greasy secretions from the skin. Co-actives are reported to be vitamin A, aloe vera and camomile extract. Pulverized flowers are reported in the skin treatments of U.S. Patent 4,880,621 and U.S. Patent 4,933,177, both to Grollier et al. Even though the many aforementioned treatments may be effective, consumers are not satisfied with either the speed of performance or results from these formulations.

The present invention provides a cosmetic composition comprising

i) from 0.1 to 10% of one or more keratolytic agents comprising C_7-C_{30} β-hydroxy carboxylic acids and their salts, C_1-C_{25} α-hydroxy carboxylic acids and their salts and mixtures thereof;

ii) from 0.0001 to 5% by weight each of an anti-irritancy agent combination which comprises:

(a) a water-soluble anti-irritancy material which is a C_{20}-C_{100} saponin; and

(b) a water-insoluble anti-irritancy agent comprising one or more C_7-C_{30} polycyclic polyenes, C_{15}-C_{40} triterpenes and mixtures thereof,

the water-soluble and water-insoluble anti-irritancy agents being present in a relative weight ratio from about 20:1 to 1:20; and

iii) from 1 to 99.9% by weight of a cosmetically acceptable carrier.

Such a cosmetic composition, when applied to the skin, can eliminate pimples, blemishes and redness within a short period.

Cosmetic compositions according to the present invention avoid any undesirable side effects which as stinging and heightened skin colour.

Particularly suitable as the α-hydroxy carboxylic acids are glycolic, lactic and 2-hydroxyoctanoic acids as well as their alkali metal and ammonium salts. The preferred β-hydroxy carboxylic acid is salicylic acid and its alkali metal and ammonium salts. Especially useful is a combination of α- and β-hydroxy carboxylic acids. Glycyrrhizinic acid and salts thereof, especially the dipotassium and ammonium salts, are the preferred water-soluble anti-irritancy agents α-Bisabolol and azulene are the preferred water-insoluble anti-irritancy agents.

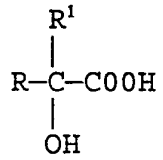
The present inventors have found that a cosmetic composition formulated with at least one keratolytic agent which is either a α-hydroxy or β-hydroxy carboxylic acid

and a combination of two types of anti-irritancy agent rapidly reduces the size of blemishes and reduces overall redness. Stinging sensations often associated with hydroxy carboxylic acids are no longer a problem with the combination of actives.

Accordingly, a first critical component of compositions according to the present invention is that of a keratolytic agent. Keratolytic agents comtemplated for use in the present invention generally fall into one or two categories.

The first category is represented by C_7-C_{30} β-hydroxy carboxylic acids and their salts. Illustrative of this category is salicylic acid as well as the alkalimetal and ammonium salts thereof. Suitable amounts of salicylic acid or salt forms may conveniently range from 0.1 to 10%, preferably between 0.8 and 2.5%, optimally between 1 and 1.5% by weight.

The second category of keratolytic agent is represented by C_1-C_{25} α-hydroxy carboxylic acids of Formula I , having the structure:



(I)

wherein R and R^1 are H, F, Cl, Br, alkyl, aralkyl or aryl groups of saturated or unsaturated, isomeric or nonisomeric, straight or branched chain, having 1 to 25 carbon atoms, or cyclic form having 5 or 6 ring members, and in addition, R and R^1 may carry OH, CHO, COOH and alkoxy groups having 1 to 9 carbon atoms, the α-hydroxyacid existing as a free acid or lactone form, or in salt form

with an organic amine base or an inorganic alkali, and as stereoisomers, and D, L, and DL forms when R and R^1 are not identical.

Illustrative of this group of materials are 2-hydroxyethanoic acid (glycolic acid); 2-hydroxypropanoic acid (lactic acid); 2-methyl 2-hydroxypropanoic acid (methyllactic acid); 2-hydroxybutanoic acid; 2-hydroxypentanoic acid; 2-hydroxyhexanoic acid; 2-hydroxyheptanoic acid; 2-hydroxyoctanoic acid; 2-hydroxynonanoic acid; 2-hydroxydecanoic acid; 2-hydroxyundecanoic acid; 2-hydroxydodecanoic acid (α-hydroxylauric acid); 2-hydroxytetradecanoic acid (α-hydroxymyristic acid); 2-hydroxyhexadecanoic acid (α-hydroxypalmitic acid); 2-hydroxyoctadecanoic acid (α-hydroxystearic acid); 2-hydroxyeicosanoic acid (α-hydroxyarachidonic acid); 2-phenyl 2-hydroxyethanoic acid (mandelic acid); 2,2-diphenyl 2-hydroxyethanoic acid (benzilic acid); 3-phenyl 2-hydroxypropanoic acid (phenyllactic acid); 2-phenyl 2-methyl 2-hydroxyethanoic acid (atrolactic acid); 2-(4'-hydroxyphenyl) 2-hydroxyethanoic acid; 2-(4'-chlorophenyl 2-hydroxyethanoic acid; 2-(3'-hydroxy-4'-methoxyphenyl) 2-hydroxyethanoic acid; 2-(4'-hydroxy-3'-methoxyphenyl) 2-hydroxyethanoic acid; 3-(2-hydroxyphenyl) 2-hydroxypropanoic acid; 3-(4'-hydroxyphenyl) 2-hydroxypropanoic acid; and 2-(3',4'-dihydroxyphenyl) 2-hydroxyethanoic acid.

Most preferred of this group of materials are glycolic acid, lactic acid and 2-hydroxyoctanoic acid and salts thereof. The salts may conveniently be selected from alkalimetal, ammonium and C_1-C_{20} alkyl or alkanol ammonium counterions. Levels of α-hydroxyalkanoic acids may suitably range from 0.1 to 10%, preferably between 0.2 and 1%, optimally between 0.4 and 0.5% by weight.

In a particularly preferred embodiment, there is present a

mixture of both a β-hydroxy carboxylic acid and an α-hydroxy carboxylic acid. For instance, the optimum combination is a mixture of salicylic acid and glycolic acid in a relative weight ratio of from 20:1 to 1:20, preferably from 10:1 to 1:1, optimally from 3:1 to 2:1.

Compositions of the present invention can include a variety of anti-irritancy agents. These are either water-soluble or water-insoluble (i.e. oil-soluble). The water-soluble anti-irritancy agents are conveniently C_{20}-C_{100} saponins, primary examples of which are glycyrrhizinic acid, especially the alkalimetal and ammonium salts. The water-insoluble anti-irritancy agents are conveniently selected from C_7-C_{30} polycyclic polyenes, C_{15}-C_{40} triterpenes and mixtures thereof. Representative of the polyenes is azulene (synthetically derived or extracted from yarrow). Representative of the triterpenes is α-bisabolol (synthetically derived or extracted from chamomile). Each of these may suitably be present at levels ranging from 0.0001 to 5%, preferably from 0.001 to 1%, optimally from 0.01 to 0.5% by weight. Most especially preferred is dipotassium glycyrrhizinate. Amounts of this material may generally range from 0.001 to 3%, preferably from 0.1 to 0.5%, optimally between 0.15 and 0.2% by weight.

In a preferred embodiment, the cosmetic composition of the present invention includes a combination of dipotassium glycyrrhizinate and α-bisabolol conveniently in a weight ratio of from 20:1 to 1:20, preferably between 5:1 and 1:5, optimally between 3:1 and 1:3 by weight, respectively.

A still further component of compositions according to the present invention may be C_1-C_{10} alkyl lactates. Most preferred is ethyl lactate which may suitably be present in amounts ranging from 0.01 to 5%, preferably between 0.5 and 3%, optimally between 1.5 and 2.5% by weight.

A variety of herbal extracts may be included as components of the composition. These extracts may suitably include those of thyme, rosemary, myrrh, bitter orange, coltsfoot and sage and conveniently may range in an amount anywhere from 0.00001 to 2%, preferably between 0.01 and 0.5% by weight.

Compositions of the invention preferably also contain aloe extract to assist with skin adhesion. Aloe extract levels may suitably range from 0.01 to 5%, preferably from about 0.05 to 1%, optimally between 0.1 and 0.75% by weight.

Antimicrobial agents may also be useful in compositions of the present invention. Typically the antimicrobial agent may be material such as triclosan tricarbanilide, tea tree oil, farnesol, farnesol acetate, hexachlorophene, C_4-C_{20} quaternary ammonium salts such as benzolconium chloride and a variety of zinc or aluminum salts. Typically the zinc or aluminum salts are compounds such as zinc pyridinethione, zinc sulphate, zinc chloride, zinc phenolsulphonate, aluminum chloride, aluminum sulphate and aluminum chlorhydrate. Amounts of the antimicrobial agent may generally range from 0.1 to 5%, preferably from 0.2 to 1%, optimally 0.3% by weight.

Compositions of the present invention may either be aqueous or anhydrous. Preferably the compositions are aqueous. Water will then be present in amounts which may generally range from 5 to 90%, preferably from 30 to 55%, optimally between 35 and 45% by weight.

Besides water, relatively volatile solvents may also conveniently be incorporated within compositions of the present invention. Most preferred are monohydric C_1-C_3 alkanols. These include ethyl alcohol, methyl alcohol and isopropyl alcohol. The amount of monohydric alkanol may suitably range from 5 to 50%, preferably from 15 to 40%,

optimally between 25 to 35% by weight.

Emollient materials in the form of silicone oils and synthetic esters may conveniently be incorporated into compositions of the present invention. Amounts of the emollients may generally range anywhere from 0.1 to 30%, preferably between 1 and 20% by weight.

Silicone oils may be divided into the volatile and non-volatile variety. The term "volatile" as used herein refers to those materials which have a measurable vapor pressure at ambient temperature. Volatile silicone oils are preferably chosen from cyclic or linear polydimethylsiloxanes containing from 3 to 9, preferably from 4 to 5, silicon atoms.

Linear volatile silicone materials generally have viscosities less than 5 centistokes at 25°C while cyclic materials typically have viscosities of less than 10 centistokes.

Nonvolatile silicone oils useful as an emollient material include polyalkyl siloxanes, polyalkylaryl siloxanes and polyether siloxane copolymers. The essentially non-volatile polyalkyl siloxanes useful herein include, for example, polydimethyl siloxanes with viscosities of from 5 to 100,000 centistokes at 25°C. Among the preferred non-volatile emollients useful in the present compositions are the polydimethyl siloxanes having viscosities from 10 to 400 centistokes at 25°C.

Among the ester emollients are:

(1) Alkenyl esters of fatty acids having 10 to 20 carbon atoms. Examples thereof include oleyl myristate, oleyl stearate, and oleyl oleate.

(2) Ether-esters such as fatty acid esters of ethoxylated fatty alcohols.

(3) Polyhydric alcohol esters. Ethylene glycol mono and di-fatty acid esters, diethylene glycol mono- and di-fatty acid esters, polyethylene glycol (200-6000) mono- and di-fatty acid esters, propylene glycol mono- and di-fatty acid esters, polypropylene glycol 2000 monooleate, polypropylene glycol 2000 monostearate, ethoxylated propylene glycol monostearate, glyceryl mono- and di-fatty acid esters, polyglycerol poly-fatty esters, ethoxylated glyceryl monostearate, 1,3-butylene glycol monostearate, 1,3-butylene glycol distearate, polyoxyethylene polyol fatty acid ester, sorbitan fatty acid esters, and polyoxyethylene sorbitan fatty acid esters are satisfactory polyhydric alcohol esters.

(4) Wax esters such as beeswax, spermaceti, myristyl myristate, stearyl stearate.

(5) Sterols esters, of which cholesterol fatty acid esters are examples thereof.

Most preferred from the foregoing list of esters are PEG-40 hydrogenated castor oil (available as Cremophore RH40®) and PPG-10-cetyl ether (available as Procetyl-10®).

Humectants of the polyhydric alcohol-type may also be included in the compositions of this invention. The humectant aids in increasing the effectiveness of the emollient, reduces scaling, stimulates removal of built-up scale and improves skin feel. Typical polyhydric alcohols include glycerol, polyalkylene glycols and more preferably alkylene polyols and their derivatives, including propylene

glycol, dipropylene glycol, polypropylene glycol, polyethylene glycol and derivatives thereof, sorbitol, hydroxypropyl sorbitol, hexylene glycol, 1,3-butylene glycol, 1,2,6-hexanetriol, ethoxylated glycerol, propoxylated glycerol and mixtures thereof. For best results the humectant is preferably propylene glycol. The amount of humectant may range anywhere from 0.5 to 30%, preferably between 1 and 15% by weight of the composition.

Thickeners/viscosifiers generally in amounts up to about 5% by weight of the composition may also be included. As known to those skilled in the art, the precise amount of thickeners can vary depending upon the consistency and thickness of the composition which is desired. Exemplary thickeners are xanthan gum, sodium carboxymethyl cellulose, hydroxyalkyl and alkyl celluloses (particularly hydroxypropyl cellulose), and cross-linked acrylic acid polymers such as those sold by B.F. Goodrich under the Carbopol trademark.

Collectively the water, solvents, silicones, esters, humectants and/or thickeners are viewed as cosmetically acceptable carriers for the keratolytic and anti-irritancy agents. Total amount of carrier will conveniently range from 1 to 99.9%, preferably from 80 to 99% by weight.

Cosmetic compositions of the present invention may be in any form. These forms may include lotions, creams, sticks, roll-on formulations, mousses, aerosol sprays, pad-applied formulations, and overnight facial masks.

A particularly preferred embodiment of the present invention is that the actives be incorporated into a quick-drying gel or paste that forms a peelable facial mask. A film-forming and an adhesion promoting polymer are necessary in this product form. Polyvinyl alcohol can serve as the film-forming polymer. Preferably the

polyvinyl alcohol will be present as a low and high molecular weight species. The former will have a number average molecular weight ranging from 15,000 to 27,000. The higher polyvinyl alcohol material will have a number average molecular weight ranging from 44,000 to 65,000. These materials are available from the Air Products Company under the trademark, Airvol 205S® and Airvol 523®. Amounts of total polyvinyl alcohol will conveniently range from 2 to 40%, preferably from 10 to 20%, optimally between 10 and 15% by weight. The ratio of low to high molecular weight may suitably range from 1:20 to 20:1, preferably from 1:10 to 1:1, optimally from 1:5 to 1:3, respectively.

As the adhesion promoting polymer, it is preferable to employ a hydrophobic acrylate or methacrylate polymer. Especially useful is Pemulen TR2® from the B.F. Goodrich Company. The CTFA name is acrylates/C_{10}-C_{30} alkyl acrylate cross-polymer. The adhesion-promoting polymer will generally be present in amounts from 0.1 to 20%, preferably from 0.5 to 5%, more preferably from 1 to 2% by weight.

The following examples will more fully illustrate select embodiments of this invention. All parts, percentages and proportions referred to herein and in the appended claims are by weight unless otherwise indicated.

EXAMPLE 1

Illustrative formulas for a water-rinseable, skin cleanser and toner are listed below.

	Formula (Weight %)				
INGREDIENT	1	2	3	4	5
Carbopol 934® (2% aqueous solution)	30.0	30.0	30.0	30.0	30.0
Polyalphaolefin (3.8 cst)	18.0	18.0	18.0	18.0	18.0
Glycerin	4.0	4.0	4.0	4.0	4.0
Stearyl alcohol	3.0	3.0	3.0	3.0	3.0
Borax	2.5	2.5	2.5	2.5	2.5
Ceteareth-20	2.0	2.0	2.0	2.0	2.0
Benzyl alcohol	1.5	1.5	1.5	1.5	1.5
Salicylic acid	1.5	1.5	1.5	1.0	1.0
Glycolic acid	1.0	1.0	1.0	1.5	1.5
Diammonium glycyrrhizinate	0.5	0.5	0.5	0.5	0.5
α-Bisabolol	0.1	-	0.1	0.4	-
Azulene	-	0.1	0.1	-	0.4
Methylparaben	0.2	0.2	0.2	0.2	0.2
Propylparaben	0.1	0.1	0.1	0.1	0.1
Disodium EDTA	0.1	0.1	0.1	0.1	0.1
Water	Balance	Balance	Balance	Balance	Balance

EXAMPLE 2

Illustrative cream formulas according to the present invention are described below.

	Formula (Weight %)				
INGREDIENT	6	7	8	9	10
Silicone Oil Q2-3225C	32.0	32.0	32.0	20.0	15.0
Ethanol	10.0	10.0	10.0	10.0	10.0
Isopropanol	12.0	5.0	5.0	5.0	5.0
Diisopropyl myristate	5.0	8.5	8.5	8.5	8.5
Sorbitan trioleate	2.5	2.5	2.5	2.5	2.5
Zinc phenolsulfonate	0.5	0.5	0.5	0.5	0.5
Salicylic acid	1.0	0.8	0.5	0.5	0.5
Ammonium lactate	0.5	0.5	-	-	-
Ammonium glycolate	-	-	0.5	0.5	0.5
t-Butyl lactate	0.3	0.3	-	-	-
Ethyl lactate	-	-	0.3	0.3	0.3
Disodium glycyrrhizinate	0.5	0.5	0.5	0.5	0.3
α-Bisabolol	0.3	0.3	0.3	0.3	0.5
DMDM Hydantoin	0.2	0.2	0.2	0.2	0.2
Fragrance	0.1	0.1	0.1	0.1	0.1
Water	Balance	Balance	Balance	Balance	Balance

EXAMPLE 3

Illustrative anhydrous stick formulas according to the present invention are described below.

	Formula (Weight %)		
INGREDIENT	11	12	13
Cyclomethicone	40.3	40.7	40.7
Stearyl alcohol	30.0	30.0	30.0
Hydrogenated castor oil	20.0	20.0	20.0
Talc	5.0	5.0	5.0
PEG-8-Distearate	2.0	2.0	2.0
Salicylic acid	1.5	1.5	1.5
Glycolic acid	0.8	0.4	0.4
Dipotassium glycyrrhizinate	0.3	0.3	0.2
α-Bisabolol	0.1	0.1	0.2

EXAMPLE 4

Illustrative aqueous stick formulas according to the present invention are described below.

	Formula (Weight %)		
INGREDIENT	14	15	16
Water	39.7	40.3	40.8
Propylene glycol	40.0	40.0	40.0
Sodium stearate	10.0	10.0	10.0
Poloxamer 1307®	8.0	8.0	8.0
Sodium Salicylate	2.0	1.5	1.0
Dipotassium glycyrrhizinate	0.2	0.2	0.2
α-Bisabolol	0.1	-	-

EXAMPLE 5

Illustrative anhydrous ointment formulas according to the present invention are described below.

	Formula (Weight %)		
INGREDIENT	17	18	19
Zinc Oxide	38.1	38.3	38.2
Cod liver oil	25.0	25.0	25.0
Lanolin	15.0	15.0	15.0
Petrolatum	10.0	10.0	10.0
Talc	9.5	9.5	9.5
Salicylic acid	2.0	2.0	1.0
Glycolic acid	-	-	1.0
Dipotassium glycyrrhizinate	0.2	0.2	0.2
α-Bisabolol	0.1	-	-
Azulene	0.1	-	0.1

EXAMPLE 6

A series of illustrative overnight facial masks according to the present invention and their clinical performance are described below. Each formula is a combination of an aqueous (A), alcoholic (B) and oily (C) phase.

Phase A

	Formula (Weight %)					
INGREDIENT	20	21	22	23	24	25
Water	43.000	42.000	39.000	39.000	40.500	40.500
Zinc sulfate	0.300	0.300	0.300	0.300	0.300	0.300
Polyvinyl alcohol (PVA-205)	2.500	2.800	2.800	2.800	2.800	2.800
Polyvinyl alcohol (PVA -523)	9.000	9.500	9.500	9.500	10.000	10.000
Polyethylene glycol-20000	0.050	0.100	0.100	0.100	0.100	0.100
Aloe extract, 40x	0.750	0.750	0.750	0.750	0.750	0.750
Propylene glycol	4.000	4.000	4.000	4.000	4.000	4.000
Propylene glycol-4	1.500	1.000	1.000	1.000	1.000	1.000
Dipotassium glycyrrizinate	-	0.100	0.250	0.250	0.150	0.150

Phase B

	Formula (Weight %)					
INGREDIENT	20	21	22	23	24	25
Alcohol SD-40	28.850	29.450	32.300	33.100	30.020	27.770
Salicylic acid	1.300	1.300	1.300	0.500	0.750	1.500
Glycolic acid	0.200	0.200	0.200	0.200	0.400	0.400
Ethyl lactate	1.000	1.000	1.000	1.000	1.500	3.000
Myrrh HS	0.500	0.500	0.500	0.500	0.500	0.500
Rosemary HS	0.500	0.500	0.500	0.500	0.500	0.500
Coltsfoot HS	0.500	0.500	0.500	0.500	0.500	0.500
Sage HS	0.500	0.500	0.500	0.500	0.500	0.500
Bitter orange HS	0.500	0.500	0.500	0.500	0.500	0.500
Yarrow HS	0.500	0.500	0.500	0.500	0.500	0.500
Pemulen TR-2®	1.350	1.300	0.500	0.500	0.500	0.500
Phospholipid PTC®	-	-	1.300	1.300	1.300	1.300

*HS indicates a 2% by weight dry extract in propylene glycol.

Phase C

	Formula (Weight %)					
INGREDIENT	20	21	22	23	24	25
Cremophore RH40®	1.600	1.600	1.600	1.600	1.600	1.600
Procetyl-10®	0.800	0.800	0.800	0.800	0.800	0.800
α-Bisabolol, natural	0.500	0.500	0.500	0.500	0.500	0.500
Vitamin E acetate	0.200	0.200	0.200	0.200	0.400	0.400
Vitamin E linoleate	-	-	-	-	-	0.100
Vitamin A palmitate	0.050	0.050	0.050	0.050	0.050	0.050
Tea tree oil	0.050	0.050	0.050	0.050	0.080	0.080

% Reduction in average blemish size overnight	-7	-18	-17	-3	-28	-34

The clinical studies were conducted with from 7 to 13 panelists. Average percentage size change of blemishes were determined after overnight treatment. The results, as listed in the table above, demonstrate the effectiveness of including dipotassium glycyrrhizinate (DPG) into the mask product. Formula 21 containing 0.1% dipotassium glycyrrhizinate exhibited an 18% reduction in average blemish size compared to the 7% of Formula 20, wherein DPG was absent. The effectiveness of salicylic acid was also demonstrated by comparison of Formula 22 (1.3% salicylic acid) exhibiting a 17% blemish size reduction by contrast with Formula 23 (0.5% salicylic acid) with only a 3% blemish size reduction.

The foregoing description and examples illustrate selected embodiments of the present invention. In light thereof, various modifications will be suggested to one skilled in the art, all of which are within the spirit and purview of this invention.

CLAIMS

1. A cosmetic composition comprising:

i) from 0.1 to 10% of one or more keratolytic agents comprising C_7-C_{30} β-hydroxy carboxylic acids and their salts, C_1-C_{25} α-hydroxy carboxylic acids and their salts and mixtures thereof,

ii) from 0.0001 to 5% by weight each of an anti-irritancy agent combination which comprises:

(a) a water-soluble anti-irritancy material which is a C_{20}-C_{100} saponin ; and

(b) a water-insoluble anti-irritancy agent comprising one or more C_7-C_{30} polycyclic polyenes, C_{15}-C_{40} triterpenes and mixtures thereof,

the water-soluble and water-insoluble anti-irritancy agents being present in a relative weight ratio from about 20:1 to 1:20; and

iii) from 1 to 99.9% by weight of a cosmetically acceptable carrier.

2. A composition according to claim 1 wherein the keratolytic agents comprise from 0.1 to 10% by weight of a C_7 to C_{30} β-hydroxy carboxylic acid and also from 0.1 to 10% by weight of a C_1-C_{25} α-hydroxy carboxylic acid.

3. A composition according to claim 2 wherein the C_7-C_{30} β-hydroxy carboxylic acid comprises salicylic acid and the C_1-C_{25} α-hydroxy carboxylic acid comprises of

glycolic acid, lactic acid, 2-hydroxy octanoic acid and combinations thereof.

4. A composition according to any one of claims 1 to 3 wherein the composition further comprises from 0.01 to 5% by weight of C_1-C_{10} alkyl lactate.

5. A composition according to any one of claims 1 to 4 wherein the water-soluble anti-irritancy agent comprises diglycyrrhizinic acid and salts thereof.

6. A composition according to claim 5 wherein the water-insoluble anti-irritancy agent comprises dipotassium glycyrrihizinate or ammonium glycyrrihizinate.

7. A composition according to any one of claims 1 to 4 wherein the water-insoluble anti-irritancy agent comprises α-bisabolol, azulene and combinations thereof.

8. A composition according to any one of claims 1 to 7 further comprising from 0.1 to 5% of a zinc or aluminum salt.

9. A composition according to any one of claims 1 to 8 further comprising from 0.1 to 5% by weight of aloe extract.

10. Use of a composition according to any one of claims 1 to 9 in reducing the size of facial blemishes.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP 94/02518

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A61K7/48

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 6 A61K

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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 508 324 (J. R. YU) 14 October 1992 see the whole document	1-10
A	GB,A,2 130 486 (L'OREAL) 6 June 1984 see the whole document	1-10
A	H. FEY & I. OTTE 'WÖRTERBUCH DER KOSMETIK' , WISSENCHAFTLICHE VERLAGSGESELLSCHAFT MBH , STUTTGART (GERMANY) see page 29	1-10

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

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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

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

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

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 November 1994	12. 12. 94

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP 94/02518

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP-A-0508324	14-10-92	AU-A-	1409492	15-10-92
		AU-A-	1926592	17-11-92
		JP-A-	5139947	08-06-93
		WO-A-	9218116	29-10-92
GB-A-2130486	06-06-84	LU-A-	84485	13-06-84
		BE-A-	898268	21-05-84
		CH-A-	657987	15-10-86
		DE-A,C	3341979	24-05-84
		FR-A,B	2536277	25-05-84
		JP-A-	59108716	23-06-84
		NL-A-	8304001	18-06-84
		US-A-	4545990	08-10-85