

AUSTRALIA
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677892
Section 28

PATENT REQUEST : STANDARD PATENT

I/We, being the person(s) identified below as the Applicant(s), request the grant of a Standard Patent to the person(s) identified below as the Nominated Person(s), for an invention described in the accompanying complete specification.

**Applicant(s) and
Nominated Person(s):** L'OREAL

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FRANCE

Invention Title: COSMETIC SCREENING COMPOSITIONS
CONTAINING AN ACID HYDROPHILIC AGENT AND
USE

**Name(s) of Actual
Inventor(s):** MARTINE ETEVE

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BASIC CONVENTION APPLICATION DETAILS

Application No:	Country:	Application Date:
94-04634	FR	19 April 1994

DATED: 23 March 1995

L'OREAL

GRIFFITH HACK & CO.

Patent Attorney for and
on behalf of the Applicant

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NOTICE OF ENTITLEMENT

We L'OREAL

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being the applicant and the nominated person in respect of an application for a patent for an invention entitled COSMETIC SCREENING COMPOSITIONS CONTAINING AN ACID HYDROPHILIC AGENT AND USE (Application No. 15018/95), state the following:

Part 1 The actual inventor of the invention is Martine ETEVE. We are the employer of the actual inventor, and we are therefore entitled to have assigned to us a patent granted to her in respect of the said invention.

Part 2 - (Not applicable)

Part 3 - We are the applicants in respect of the basic application listed on the patent request form, and the said basic application was the first application made in a Convention country in respect of the invention.

Parts 4,5
6 and 7 - (Not applicable)

DATE: 31 JANUARY 1997

L'OREAL

GRIFFITH HACK
MELBOURNE OFFICE



C. M. BENTLEY

Patent Attorney for and
on behalf of the applicant(s)

To: The Commissioner of Patents





(12) PATENT ABRIDGMENT (11) Document No. AU-B-15018/95
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 677892

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COSMETIC SCREENING COMPOSITIONS CONTAINING AN ACID HYDROPHILIC AGENT AND USE
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- (56) Prior Art Documents
GB 2225013
JP 62181213
- (57)

Even more specifically, the object of the present invention is to provide novel cosmetic screening compositions which, while employing a hydrophilic screen including at least one acid group in an oil-in-water type emulsion type vehicle, have particularly improved water resistance.

Thus, following much research carried out on the subject, it has now been found by the Applicant Company that this object and others could be achieved by combining in the said vehicle the said hydrophilic screen having an acid group with an inert insoluble filler having adsorbent properties with regard to the said screen.

CLAIM

1. Cosmetic screening composition, characterized in that it contains, in a cosmetically acceptable vehicle of the oil-in-water emulsion type, (i) at least one hydrophilic agent which screens ultraviolet radiation and includes at least one optionally neutralized acid radical, and (ii) at least one insoluble filler which is inert and adsorbent with regard to the said agent.

46. Use of an inert insoluble adsorbent filler, in particular a silica, in order to improve the water resistance of an antisen cosmetic composition of the oil-in-water emulsion type which contains, as photoprotective agent, a hydrophilic UV screen including at least one acid, in particular sulphonic, radical.

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COMPLETE SPECIFICATION
STANDARD PATENT

Applicant:

L'OREAL

Invention Title:

COSMETIC SCREENING COMPOSITIONS
CONTAINING AN ACID HYDROPHILIC AGENT
AND USE

The following statement is a full description of this invention, including the best method of performing it known to me/us:

COSMETIC SCREENING COMPOSITIONS CONTAINING
AN ACID HYDROPHILIC AGENT AND USE

The present invention relates to novel
cosmetic screening compositions intended to protect the
5 skin and the hair from ultraviolet radiation
(compositions referred to hereinbelow more simply as
antison compositions) and having good resistance to
water. Still more specifically, it relates to water-
resistant cosmetic compositions which are in the form
10 of emulsions of the oil-in-water type and which
contain, as photoprotective agents, hydrophilic UV
screens including at least one acid radical in
combination with adsorbent inert fillers. The invention
also relates to the use of the said compositions for
15 protecting the skin and/or the hair against ultraviolet
radiation.

It is known that light radiation of
wavelengths between 280 nm and 400 nm permit tanning of
the human epidermis, and that rays of wavelengths
20 between 280 and 320 nm, known by the name of UV-B,
cause erythema and burning of the skin which can impair
the development of a natural tan; this UV-B radiation
must hence be screened out.

It is also known that UV-A rays, of
25 wavelengths between 320 and 400 nm, which cause tanning
of the skin, are liable to induce adverse changes in
the latter, in particular in the case of a sensitive
skin or a skin continually exposed to solar radiation.

UV-A rays cause, in particular, a loss of elasticity of the skin and the appearance of wrinkles leading to premature ageing. They promote triggering of the erythematous reaction or exacerbate this reaction in some subjects, and can even be the source of phototoxic or photoallergic reactions. It is therefore desirable to screen out the UV-A radiation also.

Many cosmetic compositions intended for photoprotection (UV-A and/or UV-B) of the skin have been proposed to date.

For various reasons associated especially with being more pleasant to use (gentleness, emollience, ease of application and the like), the antisen compositions currently available most often take the form of an oil-in-water type emulsion (that is to say a cosmetically acceptable vehicle consisting of an aqueous continuous dispersion phase and an oily discontinuous disperse phase) which contains, at various concentrations, one or more conventional organic screens which are capable of selectively absorbing harmful UV radiation, these screens being selected as a function of the desired protection factor. However, one of the problems encountered with this type of antisen composition resides, in particular, in the fact that, once they have been applied to the skin in the form of a film by their users, they have relatively little resistance to water.

Also, it has already been proposed to improve

the water resistance of the screening compositions by formulating them either with polymers or else in a vehicle of the water-in-oil emulsion type in the presence of emulsifying agents having a HLB
5 (hydrophilic/lipophilic balance) ranging from 1 to 7, as is described respectively in Patents US 5,041,281 and 5,047,232.

The two above-mentioned techniques effectively permit improvement of the water resistance
10 of the compositions when they contain lipophilic screens. The same is not, however, true in the case of compositions containing screens, in particular acidic screens, of hydrophilic nature, because the latter disappear very easily in water by bathing in the sea or
15 in a swimming pool, in the shower or when engaging in water sports; thus the sun compositions which they contain, alone or combined with lipophilic screens, do not therefore provide the desired initial protection once the substrate (skin or hair) to which they have
20 been applied has come in contact with water. It is then necessary to reapply the antisun product in order to retain suitable protection.

The above phenomenon is particularly critical and problematic when the antisun compositions are
25 required to be in the form of oil-in-water type emulsions. In the case of oil-in-water emulsions, or in the case of water-in-oil emulsions, the hydrophilic screens are present in the aqueous phase and the

lipophilic screens are present in the fatty phase. As indicated above, oil-in-water emulsions are greatly preferred by the user to water-in-oil emulsions, in particular because of their pleasant feel (similar to water) and the fact that they are presented in the form of a lotion or of a non-oily cream; however, and unfortunately, it has also been found that they lose their UV protection efficiency much more easily once they come into contact with water, this drop in the protection factor, caused by progressive loss to the water of the hydrophilic screen, being moreover increasingly notable, the greater the synergism in the protection factor of the lipophilic/hydrophilic screening combination present in the antisen composition.

In Patent Application EP-A-0,275,719, it was sought to make sun compositions containing acidic screens resistant to water by combining these latter with a fatty amine.

However, this type of solution is in some cases unsatisfactory because it is impossible to combine certain acidic screens with fatty amines and also because fatty amines may cause contact allergies, as is described in the work "Adverse reactions to cosmetics" (Anton de Cornelis de Groot - Ed. Rijksuniversiteit Groningen, 1988, chapter 5, p. 170 et seq.).

The present invention aims to solve the

above mentioned problems.

Even more specifically, the object of the present invention is to provide novel cosmetic screening compositions which, while employing a hydrophilic screen including at least one acid group in an oil-in-water type emulsion type vehicle, have particularly improved water resistance.

Thus, following much research carried out on the subject, it has now been found by the Applicant Company that this object and others could be achieved by combining in the said vehicle the said hydrophilic screen having an acid group with an inert insoluble filler having adsorbent properties with regard to the said screen.

This discovery is the basis of the present invention.

In the context of the present invention, the "water resistance" means the stability over time of the protection factor in the UVA and/or UVB ranges of an antisen composition subjected (after application to the skin or to the hair) to contact with water. The sun protection associated with a given composition is characterized by giving it a protection factor (or PF) which is mathematically expressed by the ratio of the exposure time necessary to reach the erythematous threshold with the UV screen to the time necessary to reach the erythematous threshold without UV screen.

The first subject of the present invention is

therefore a novel screening cosmetic composition, which is characterized in that it comprises, in a cosmetically acceptable vehicle of the oil-in-water emulsion type, (i) at least one hydrophilic agent which is capable of screening ultraviolet radiation and includes at least one acid radical, and (ii) at least one insoluble filler which is inert and adsorbent with regard to the said agent.

The antisun compositions according to the invention, as defined in more detail hereinbelow, make it possible to retain sufficient protection factors even in the event of intentional or unintentional wetting of the parts of the body to which they have been applied. This is not only advantageous in economical terms, but further limits or eliminates the risk of accidental "sunburn" for users who forget to reapply the product to the body.

Other characteristics, aspects and advantages of the invention will, however, emerge even more fully on reading the following detailed description.

The present invention relates more specifically, but not exclusively, to hydrophilic screens containing at least one sulphonic radical - SO_3H . However, it also applies to compositions containing hydrophilic screens having a carboxylic radical. The acid radical, carboxylic or sulphonic, may moreover be in a partially or completely neutralized form. Finally, it will be noted that, according to the

invention, it is clearly possible to employ one or more hydrophilic screens having an acid functional group.

The inert adsorbent filler which is used in the context of the present invention and which does not per se have a photoprotective nature with respect to UV, is here useful only as a "trapping" substance which can support and hold, at its surface and/or in its pores, the hydrophilic screen including at least one acid radical, this being in order to limit or prevent dissolving of the latter when the antisun composition, once applied to the skin and/or the hair, comes into contact with water. This adsorbent substance, which is generally inorganic, advantageously has a specific surface area of at least $10 \text{ m}^2/\text{g}$, preferably at least $50 \text{ m}^2/\text{g}$ and more preferably still at least $100 \text{ m}^2/\text{g}$. It is most often a powder whose mean particle size is at least $0.1 \text{ }\mu\text{m}$.

According to a preferred embodiment of the present invention, the inert adsorbent filler consists of a silica (or silicon dioxide) which may be fumed or precipitated or else be a silica gel. This silica is preferable fumed. Such silicas are, in particular, sold under the brand name AEROSIL[®] by the company DEGUSSA; of these latter, use of AEROSIL R 972 is more particularly preferred.

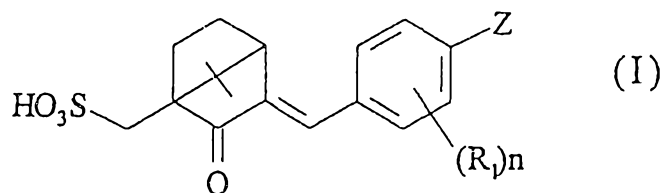
Other examples of adsorbent substances likely to be suitable for the present invention are aluminas (in particular active aluminas), aluminosilicates (in

particular clays), mixed silicates of alkali and/or
 alkaline-earth metals (smectites, Laponites[®], in
 particular LAPONITES DS, D, XLS or XLG marketed by the
 Company LAPORTE Industries, Ltd.), zeolites, talc,
 5 magnesia and the like. Mixtures of fillers may, of
 course be used.

The above fillers may furthermore be
 subjected to specific surface treatments intended to
 make them more adsorbent with regard to a particular
 10 acid water-soluble screen.

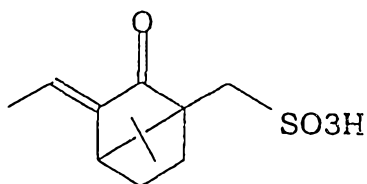
As an example of acidic screens containing at
 least one SO₃H group, mention may more particularly be
 made of the sulphonic derivatives of 3-benzylidene
 camphor and in particular those having the following
 15 formulae (I), (II), (III), (IV) and (V):

Formula (I):



in which:

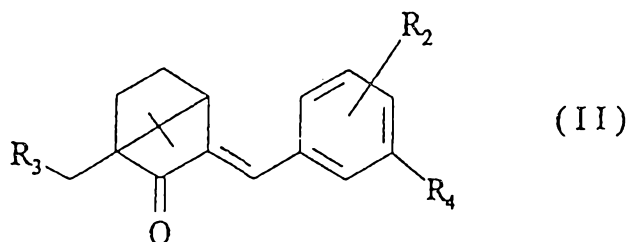
- Z denotes a group



- n is equal to 0 or is a integer between 1 and 4
($0 \leq n \leq 4$),
- R_1 denotes one or more identical or different,
linear or branched alkyl or alkoxy radicals containing
5 approximately 1 to 4 carbon atoms.

A particularly preferred compound of formula
(I) is that corresponding to $n = 0$, namely benzene-
1,4-di(3-methylidenecamphor-10-sulphonic) acid.

Formula (II):



10 in which:

- R_2 denotes a hydrogen atom, a halogen atom, an
alkyl radical containing approximately 1 to 4 carbon
atoms or a $-SO_3H$ radical,
- R_3 and R_4 denote a hydrogen atom or a $-SO_3H$
15 radical, at least one of the radicals R_2 , R_3 or R_4
denoting the $-SO_3H$ radical, it not being possible for R_2
and R_4 simultaneously to denote a $-SO_3H$ radical.

Mention may be made, as particular examples,
of the following compounds having formula (II) in
20 which:

- R_2 denotes the $-SO_3H$ radical in a position para
to the benzylidene camphor and R_3 and R_4 each
denote a hydrogen atom, that is to say

4-(3-methylidenecamphor)-benzenesulphonic acid.

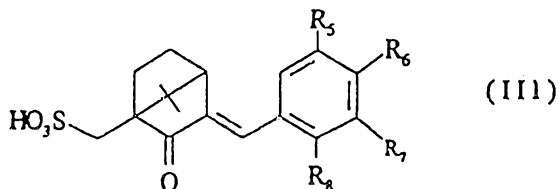
R_2 and R_4 each denote a hydrogen atom and R_3 denotes a $-SO_3H$ radical, that is to say 3-benzylidenecamphor-10-sulphonic acid.

5 R_2 denotes a methyl radical in a position para to the benzylidene camphor, R_4 denotes a $-SO_3H$ radical and R_3 denotes a hydrogen atom, that is to say 2-methyl-5-(3-methylidenecamphor)benzenesulphonic acid.

10 R_2 denotes a chlorine atom in a position para to the benzylidene camphor, R_4 denotes a $-SO_3H$ radical and R_3 denotes a hydrogen atom, that is to say 2-chloro-5-(3-methylidenecamphor)benzenesulphonic acid.

15 R_2 denotes a methyl radical in the position para to the benzylidene camphor, R_4 denotes a hydrogen atom and R_3 denotes a $-SO_3H$ radical, that is to say 3-(4-methyl)benzylidenecamphor-10-sulphonic acid.

Formula (III):



in which:

- R_5 and R_7 denote a hydrogen atom, a hydroxyl radical, a linear or branched alkyl or alkoxy radical containing approximately 1 to 8 carbon atoms, at least one of the radicals R_5 and R_7 representing a hydroxyl, alkyl or alkoxy radical,
- R_6 and R_8 denote a hydrogen atom, or a hydroxyl radical, at least one of the radicals R_6 and R_8 denoting the hydroxyl radical, on condition that when R_5 and R_8 denote a hydrogen atom and R_6 denotes a hydroxyl radical, R_7 does not denote an alkoxy radical or a hydrogen atom.

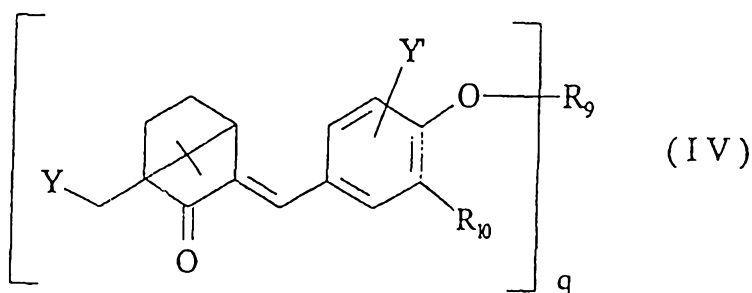
Mention may be made, as particular examples, of the following compounds having formula (III), in

15 which:

R_5 is a methyl radical, R_6 is a hydrogen atom, R_7 is a tert-butyl radical, R_8 is a hydroxyl radical, that is to say 3-t-butyl-2-hydroxy-5-methylbenzylidenecamphor-10-sulphonic acid.

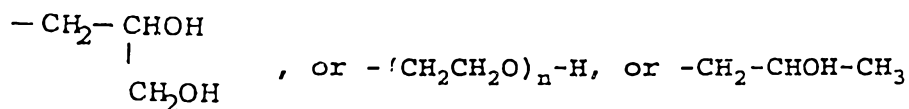
20 R_5 is a methoxy radical, R_6 is a hydrogen atom, R_7 is a tert-butyl radical, R_8 is a hydroxyl radical, that is to say 3-t-butyl-2-hydroxy-5-methoxybenzylidenecamphor-10-sulphonic acid.

25 R_5 and R_7 each denote a tert-butyl radical, R_6 denotes a hydroxyl radical, R_8 denotes a hydrogen atom, that is to say 3,5-di-tert-butyl-4-hydroxybenzylidenecamphor-10-sulphonic acid.

Formula (IV):

in which

- R_9 denotes a hydrogen atom, a linear or branched
 5 alkyl radical containing approximately 1 to 18 carbon
 atoms, a linear or branched alkenyl radical containing
 approximately 3 to 18 carbon atoms, a group



- or else a divalent radical: $-(\text{CH}_2)_m-$ or $-\text{CH}_2-\text{CHOH}-\text{CH}_2-$,
 10 n being an integer between 1 and 6 ($1 \leq n \leq 6$) and m an
 integer between 1 and 10 ($1 \leq m \leq 10$),

- R_{10} denotes a hydrogen atom, an alkoxy radical
 containing approximately 1 to 4 carbon atoms or a
 divalent $-\text{O}-$ radical bonded to the R_9 radical when the
 15 latter is also divalent,

- q denotes an integer equal to 1 or 2, it being
 understood that if q is equal to 2, R_9 must denote a
 divalent radical,

- Y and Y' denote a hydrogen atom or a $-\text{SO}_3\text{H}$ radical,

at least one of these radicals Y or Y' being different from hydrogen.

Mention may be made, as particular examples, of the following compounds having formula (IV), in
5 which:

- q is equal to 1, Y and R₁₀ each denote a hydrogen atom, R₉ denotes a methyl radical, Y' in position 3 denotes a -SO₃H radical, that is to say 2-methoxy-5-(3-methylidenecamphor)benzenesulphonic acid.

10 - q is equal to 1, Y denotes a -SO₃H radical, Y' denotes a hydrogen atom, R₁₀ denotes a divalent -O- radical bonded to R₉ which denotes a methylene radical, that is to say 3-(4,5-methylenedioxy)benzylidenecamphor-10-sulphonic acid,

15 - q is equal to 1, Y denotes a -SO₃H radical, Y' and R₁₀ both denote a hydrogen atom, R₉ denotes a methyl radical, that is to say 3-(4-methoxy)benzylidenecamphor-10-sulphonic acid.

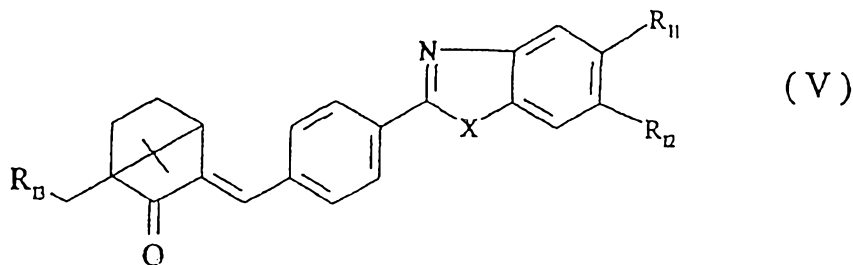
20 - q is equal to 1, Y denotes a -SO₃H radical, Y' denotes a hydrogen atom, R₉ denotes a methyl radical, R₁₀ denotes a methoxy radical, that is to say 3-(4,5-dimethoxy)benzylidienecamphor-10-sulphonic acid.

25 - q is equal to 1, Y denotes a -SO₃H radical, Y' and R₁₀ both denote a hydrogen atom and R₉ denotes a n-butyl radical, that is to say 3-(4-n-butoxy)benzylidene-camphor-10-sulphonic acid.

- q is equal to 1, Y denotes a -SO₃H radical, Y' denotes a hydrogen atom, R₉ denotes an n-butyl radical

and R_{10} denotes a methoxy radical, that is to say 3-(4-n-butoxy-5-methoxy)benzylidenecamphor-10-sulphonic acid.

Formula (V):



5 in which:

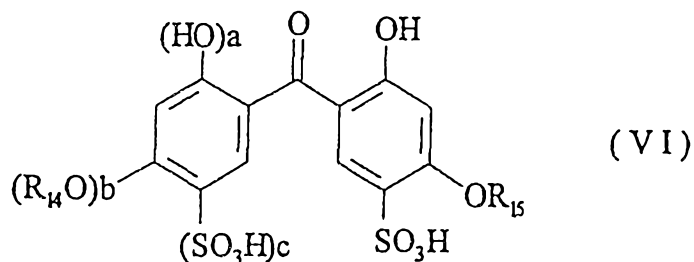
- R_{11} denotes a hydrogen atom or a linear or branched alkyl or alkoxy radical containing approximately 1 to 6 carbon atoms or a $-SO_3H$ radical,
- R_{12} denotes a hydrogen atom or a linear or branched alkyl or alkoxy radical containing approximately 1 to 6 carbon atoms,
- R_{13} denotes a hydrogen atom or a $-SO_3H$ radical, at least one of the radicals R_{11} and R_{13} denoting a $-SO_3H$ radical,
- X is an oxygen or sulphur atom or a $-NR-$ group, R being a hydrogen atom or a linear or branched alkyl radical containing approximately 1 to 6 carbon atoms.

Mention may be made, as a particular example

of formula (V), of the compound in which X denotes a
 -NH- radical, R₁₁ denotes a -SO₃H radical and R₁₂ and R₁₃
 both denote a hydrogen atom, that is to say 2-[4-
 (camphomethylidene)phenyl]benzimidazole-5-sulphonic
 5 acid.

The above compounds having structures (I),
 (II), (III), (IV), (V) are respectively described in
 Patent US 4,585,597 and Patent Applications
 FR 2,236,515, 2,282,426, 2,645,148, 2,430,938 and
 10 2,592,380.

The screen having a sulphonic group may also
 be a sulphonic derivative of benzophenone having the
 following formula (VI):



in which:

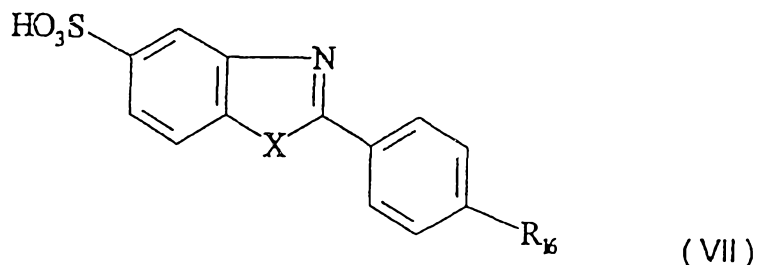
- 15 - R₁₄ and R₁₅, which are identical or different, denote
 either a hydrogen atom or a linear or branched alkyl
 radical containing approximately 1 to 8 carbon atoms,
 - a, b and c, which are identical or different are
 numbers equal to 0 or 1.

20 Mention may be made, as a particular example
 of a compound having formula (VI) of: 2-hydroxy-4-
 methoxybenzophenone-5-sulphonic acid (compound of

formula (VI) in which a, b and c are equal to zero and R_{15} denotes a methyl radical).

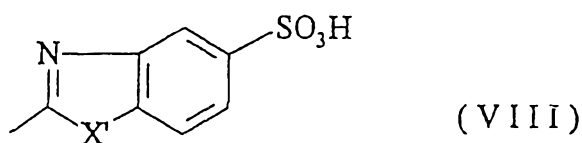
The screen having a sulphonic group may also be a sulphonic derivative of the following formula

5 (VII):



in which:

- X denotes a hydrogen atom or a -NH- radical,
 - R_{16} denotes a hydrogen atom, a linear or branched alkyl or alkoxy radical containing approximately 1 to 8 carbon atoms or a group of formula (VIII)
- 10



in which X' represents an oxygen atom or a -NH- radical.

Mention may be made, as particular examples, of the following compounds having formula (VII), in

15 which:

- X denotes the -NH- radical and R_{16} denotes a hydrogen atom: 2-phenylbenzimidazole-5-sulphonic acid.
- X denotes the -NH- radical and R_{16} denotes the group

having formula (VIII) in which X' denotes the -NH- radical: benzene-1,4-di(benzimidazol-2-yl-5-sulphonic) acid.

- X denotes an oxygen atom, R₁₆ denotes the group having formula (VIII) in which X' denotes an oxygen atom: benzene-1,4-di(benzoxazol-2-yl-5-sulphonic) acid.

The compounds of formula (VI) and (VII) are known compounds which can be prepared according to conventional methods described in the prior art.

Examples of cosmetic screening compositions which are preferred in the context of the present invention comprise the following combinations of an acidic hydrophilic UV screen and an adsorbent inert filler:

- sulphonic derivative of 3-benzylidene camphor having formula (I) in which n = 0 (benzene-1,4-di(3-methylidenecamphor-10-sulphonic) acid) and fumed silica of type AEROSIL R 972 sold by the company DEGUSSA.

- sulphonic derivative of benzophenone having the formula (IV) in which a, b and c are equal to 0 and R₁₅ denotes a methyl radical (2-hydroxy-4-methoxybenzophenone-5-sulphonic acid, in particular sold by BASF under the name Uvinul MS 40) and fumed silica of type AEROSIL R 972 sold by the company

DEGUSSA.

- sulphonic derivative of benzimidazole having formula (VII) in which X denotes the -NH- radical and R₁₆ denotes a hydrogen atom (2-phenylbenzimidazole-

5-sulphonic acid, in particular sold by MERCK under the name Eusolex 232) and fumed silica of type AEROSIL R 972 sold by the company DEGUSSA.

The hydrophilic UV screen including at least one acid radical, and in particular a sulphonic acid radical, is generally present in screening compositions according to the invention at a total composition of between approximately 0.2 and 10% by weight, and preferably between approximately 0.25 and 6% by weight, with respect to the total weight of the composition.

The adsorbent inert filler, and in particular silica, is preferably present in the screening compositions in a content of between approximately 0.15 and 5%, and preferably between approximately 0.2 and 3%, with respect to the total weight of the composition.

The cosmetic compositions according to the invention may, of course, contain one or more hydrophilic or lipophilic complementary sunscreens which are active in the UVA and/or UVB ranges, which are naturally other than the acidic hydrophilic screens of the invention.

These complementary screens are preferably chosen from cinnamic derivatives such as, for example, 2-ethylhexyl p-methoxycinnamate, salicylic derivatives such as, for example, 2-ethylhexyl salicylate and homomenthyl salicylate, derivatives of camphor such as, for example, 3(4-methylbenzylidene)camphor or

1,4-divinylbenzenecamphorsulphonic acid, derivatives of triazine such as 2,4,6-tris[p-(2'-ethylhexyl-1'-oxycarbonyl)anilino]1,3,5-triazine, derivatives of benzophenone such as 2-hydroxy-4-methoxybenzophenone, derivatives of dibenzoylmethane such as 4-tert-butyl-4'-methoxydibenzoylmethane, derivatives of β,β -diphenylacrylates such as 2-ethylhexyl- α -cyano- β,β -diphenylacrylate, derivatives of p-aminobenzoic acid such as, for example, octyl paradimethylaminobenzoate, menthyl anthranilate, and the screening polymers and screening silicones described in Application WO-93/04665. Other examples of organic screens are given in Patent Application EP-A 0,487,404.

The compositions according to the invention may also contain artificial agents for tanning and/or staining the skin (self-tanning agents) such as, for example, dihydroxyacetone (DHA).

The cosmetic compositions according to the invention may also contain coated or uncoated metal oxide nanopigments (mean size of the primary particles: generally between 5 nm and 100 nm, preferably between 10 and 50 nm) such as, for example, titanium, iron, zinc, zirconium or cerium oxide nanopigments which are photoprotective agents which are well known per se and act by physical blocking (reflection and/or scattering) of UV radiation. Such coated or uncoated metal oxide nanopigments are, in particular, described in Patent Applications EP-A-0,518,772 and EP-A-0,518,773. Mention

may furthermore be made, by way of addition, of the products sold under the brand names UVT M 160, UVT M 212 and UVT M 262 by the company KEMIRA, and MT 100 SAS by the company TAYCA.

5 The compositions of the invention may furthermore comprise cosmetic adjuvants chosen from fats, organic solvents, nonionic thickeners, emollients, antioxidants, opacifying agents, stabilizers, silicones, anti-foaming agents,
10 moisturisers, vitamins, fragrances, preservatives, nonionic surfactants, fillers, sequestering agents, nonionic polymers, propellants, basifying or acidifying agents and dyes, or any other ingredient conventionally used in cosmetics, in particular for manufacturing
15 compositions in the form of emulsions.

 Of course, the person skilled in the art will take care to choose this or these optional complementary compounds so that the advantageous properties intrinsically associated with the
20 combination according to the invention are not, or are substantially not, detrimentally affected by the addition or additions envisaged.

 The fats may consist of an oil or a wax or a mixture thereof, petrolatum, paraffin, lanolin,
25 hydrogenated lanolin, acetylated lanolin, and they also comprise fatty acids, fatty alcohols such as lauric, cetylic, myristic, stearic, palmitic, oleic alcohol as well as 2-octyldodecanol, fatty acid esters such as

glycerol monostearate, polyethyleneglycol monostearate, isopropyl myristate, isopropyl adipate, isopropyl palmitate, octyl palmitate, benzoates of C₁₂-C₁₅ fatty alcohols (Finsolv TN of FINETEX), polyoxypropylenated myristic acid having 3 moles of propylene oxide (WITCONOL APM of WITCO), triglycerides of C₆-C₁₈ fatty acids such as the triglycerides of caprylic/capric acid, fluorinated and perfluorinated oils.

The oils may be chosen from animal, vegetable, mineral or synthetic oils and in particular hydrogenated palm oil, hydrogenated or unhydrogenated castor oil, liquid petrolatum, liquid paraffin, Purcellin oil (stearyl octanoate), volatile or non-volatile silicone oils, isoparaffins and poly- α -olefins.

The waxes may be chosen from animal, fossil, vegetable, mineral or synthetic waxes. Mention may particularly be made of beeswax, Carnauba, Candelilla, sugar cane or Japan wax, ozokerites, Montan wax, monocrystalline waxes, paraffins, silicon waxes and resins.

Among the organic solvents, mention may be made of the lower alcohols and polyols such as ethanol, isopropanol, propylene glycol, glycerol and sorbitol.

The thickeners may be chosen in particular from cross-linked polyacrylic acids, modified or unmodified guar and cellulose gums such as hydroxypropylated guar gum, cetylhydroxyethylcellulose

and hydroxypropylmethylcellulose.

The compositions of the invention are prepared according to techniques which are well known to the person skilled in the art in the field of the synthesis of oil-in-water type emulsions. During preparation of the composition, the acidic screen previously neutralized, for example by means of triethanolamine, is introduced into the fatty phase of the composition, and the adsorbent inert filler, for example silica, is then added to this fatty phase until a viscous liquid is obtained; the other constituents of the composition are then added and the composition is homogenized.

By way of indication, in the antisun emulsions according to the invention and intended for the protection of the skin, the aqueous phase is generally present at a ratio of approximately 50 to 95% by weight, preferably approximately 70 to 90% by weight, with respect to the whole of the formulation, the oily phase is generally present at a ratio of approximately 5 to 50% by weight, preferably approximately 10 to 30% by weight, with respect to the whole of the formulation, and the (co)emulsifier(s) is (are) generally present at a ratio of approximately 0.5 to 20% by weight, preferably approximately 2 to 10% by weight, with respect to the whole of the formulation.

The cosmetic composition of the invention can be used as a composition for protecting the human

epidermis or the hair against ultraviolet radiation, as an antisen composition or as a make-up product (for the eyelashes, for the eyebrows or for the skin).

This composition may, depending on the application envisaged, for example be in the form of a cream, a lotion, a cream gel, an ointment, a shampoo or any other hair composition to be rinsed out, intended to be applied before or after shampooing, before, during or after dyeing or bleaching, before, during or after a permanent wave or hair straightening, and finally may optionally be packaged as an aerosol and therefore be in the form of a mousse or spray.

The aqueous phase of the emulsion may comprise a non-ionic vesicular dispersion prepared according to known methods (Bangham, Standish and Watkins. J. Mol. Biol. 13, 238 (1965), FR 2,315,991 and FR 2,416,008).

Another subject of the present invention is a method for cosmetic treatment of the skin or of the hair which is intended to protect them against the effects of UV radiation, consisting in applying thereto an effective quantity of a cosmetic composition as described hereinabove.

Concrete examples, which however imply no limitation, illustrating the invention will now be given.

EXAMPLE 1

Sun lotion for the skin (oil-in-water emulsion)

- Mixture of cetylstearyl alcohol and
5 cetylstearyl alcohol oxyethylenated with
33 moles of ethylene oxide, sold under the
name "Sinnowax AO" by HENKEL 7 g
- Mixture of non-self-emulsifiable glyceryl
monostearate and distearate 2 g
- 10 - Cetyl alcohol 1.5 g
- Benzoate of C12-C15 alcohols (Finsolv TN
of FINETEX) 10 g
- Silicone oil (Silbione oil 70 047 V 300 of
RHONE POULENC SILICONES) 1.5 g
- 15 - 4-Tert-butyl-4'-methoxydibenzoylmethane 4 g
- 2-Ethylhexyl-2-cyano-3,3-phenylacrylate 10 g
- Fumed silica (Aerosil R 972 of DEGUSSA) 0.5 g
- 2-phenylbenzimidazole-5-sulphonic acid
(Eusolex 232 of MERCK) 3 g

- Triethanolamine 2.21 g
- Glycerol 5 g
- Fragrances, preservatives qs
- Demineralized water qs for 100 g

5 The above emulsion is produced by adding the fatty phase heated to approximately 80°C to the aqueous phase containing glycerol and the preservatives, heated to the same temperature and under rapid agitation.

EXAMPLE 2

10 Sun cream for the skin (oil-in water emulsion)

- Mixture of cetylstearyl alcohol and cetylstearyl alcohol oxyethylenated with 33 moles of ethylene oxide, sold under the name "Sinnowax AO" by HENKEL 7 g
- Mixture of non-self-emulsifiable glyceryl monostearate and distearate 2 g
- Cetyl alcohol 1.5 g
- 20 - Benzoate of C12-C15 alcohols (Finsolv TN

	of FINETEX)	10 g
	- Silicone oil (Silbione oil 70 047 V 300 of RHONE POULENC SILICONES)	1.5 g
	- 4-Tert-butyl-4'-methoxydibenzoylmethane	2 g
5	- 2-Ethylhexyl-2-cyano-3,3-phenylacrylate	10 g
	- Fumed silica (Aerosil R 972 of DEGUSSA)	0.4 g
	- Benzene-1,4-di(3-methylidenecamphor-10-sulphonic acid	1.98 g
	- Triethanolamine	1.84 g
10	- Glycerol	5 g
	- Fragrances, preservatives qs	
	- Demineralized water qs for	100 g

The above emulsion is produced by adding the fatty phase heated to approximately 80°C to the aqueous phase containing glycerol and the preservatives, heated to the same temperature and under rapid agitation.

EXAMPLE 3

Sun cream for the skin (oil-in-water emulsion)

- Mixture of cetylstearyl alcohol and
5 cetylstearyl alcohol oxyethylenated with
33 moles of ethylene oxide, sold under the
name "Sinnowax AO" by HENKEL 7 g
- Mixture of non-self-emulsifiable glyceryl
monostearate and distearate 2 g
- 10 - Cetyl alcohol 1.5 g
- Benzoate of C12-C15 alcohols (Finsolv TN
of FINETEX) 10 g
- Silicone oil (Silbione oil 70 047 V 300 of
RHONE POULENC SILICONES) 1.5 g
- 15 - 4-Tert-butyl-4'-methoxydibenzoylmethane 4 g
- 2-Ethylhexyl-2-cyano-3,3-phenylacrylate 10 g
- Fumed silica (Aerosil R 972 of DEGUSSA) 0.6 g
- Benzene-1,4-di(3-methylidenecamphor-10-sulphonic)
acid 2.97 g

- Triethanolamine 2.31 g
- Glycerol 5 g
- Titanium oxide nanopigment coated with
aluminium stearate and alumina
- 5 (Micro Titanium Dioxide MT100T of the
company TAYCA) 5 g
- Fragrances, preservatives qs
- Demineralized water qs for 100 g

10 The above emulsion is produced by adding the
fatty phase heated to approximately 80°C to the aqueous
phase containing glycerol, the titanium oxide
nanopigment and the preservatives, heated to the same
temperature and under rapid agitation.

EXAMPLE 4

15 Sun lotion for the skin (oil-in-water
emulsion)

- Mixture of cetylstearyl alcohol and
cetylstearyl alcohol oxyethylenated with
- 20 33 moles of ethylene oxide, sold under the
name "Sinnowax AO" by HENKEL 7 g

	- Mixture of non-self-emulsifiable glyceryl monostearate and distearate	2 g
	- Cetyl alcohol	1.5 g
5	- Benzoate of C12-C15 alcohols (Finsolv TN of FINETEX)	10 g
	- Silicone oil (Silbione oil 70 047 V 300 of RHONE POULENC SILICONES)	1.5 g
	- 4-Tert-butyl-4'-methoxydibenzoylmethane	1.5 g
10	- 3-(4-Methylbenzylidene)camphor (Eusolex 6300 of MERCK)	4 g
	- Fumed silica (Aerosil R 972 of DEGUSSA)	0.5 g
	- Benzene-1,4-di(3-methylidenecamphor-10-sulphonic acid)	1.98 g
	- Triethanolamine	1.44 g
15	- Glycerol	5 g
	- Titanium oxide nanopigment coated with aluminium stearate and alumina (Micro Titanium Dioxide MT 100T of the	

- company TAYCA) 5 g
- Fragrances, preservatives qs
- Demineralized water qs for 100 g

The above emulsion is produced by adding the fatty phase heated to approximately 80°C to the aqueous phase containing glycerol, the titanium oxide nanopigment and the preservatives, heated to the same temperature and under rapid agitation.

EXAMPLE 5

10 Sun lotion for the skin (oil-in-water emulsion)

- Mixture of cetylstearyl alcohol and cetylstearyl alcohol oxyethylenated with 33 moles of ethylene oxide, sold under the name "Sinnowax AO" by HENKEL 7 g

- Mixture of non-self-emulsifiable glyceryl monostearate and distearate 2 g

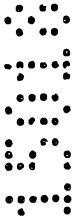
- Cetyl alcohol 1.5 g

20 - Benzoate of C12-C15 alcohols (Finsolv TN of FINETEX) 10 g

	- Silicone oil (Silbione oil 70 047 V 300 of RHONE POULENC SILICONES)	1.5 g
	- 2-Ethylhexyl-p-methoxycinnamate	7 g
	- 2-Ethylhexyl-2-cyano-3,3-diphenylacrylate	7 g
5	- 1,4-Divinylbenzene- β,β' -camphorsulphonic acid in aqueous solution at 33%	9.09 g
	- Synthetic smectite	2 g
	- Triethanolamine	1.44 g
	- Glycerol	5 g
10	- Titanium oxide nanopigment coated with aluminium stearate and alumina (Micro Titanium Dioxide MT 100T of the company TAYCA)	3 g
	- Fragrances, preservatives qs	
15	- Demineralized water qs for	100 g

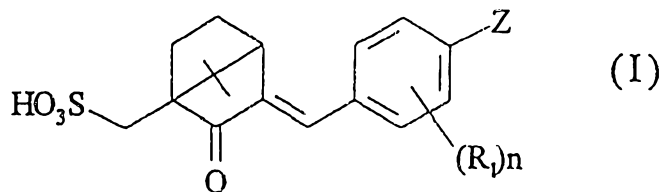
The above emulsion is produced by adding the fatty phase heated to approximately 80°C to the aqueous phase containing glycerol, the titanium oxide nanopigment and the preservatives, heated to the same

temperature and under rapid agitation.



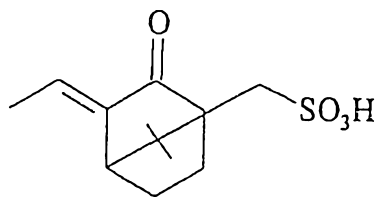
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Cosmetic screening composition, characterized in that it contains, in a cosmetically acceptable vehicle of the oil-in-water emulsion type, (i) at least one hydrophilic agent which screens ultraviolet radiation and includes at least one optionally neutralized acid radical, and (ii) at least one insoluble filler which is inert and adsorbent with regard to the said agent.
2. Composition according to Claim 1, characterized in that the acid radical of the hydrophilic agent which screens ultraviolet radiation is a sulphonic radical $-SO_3H$.
3. Composition according to Claims 1 or 2, characterized in that the hydrophilic agent which screens ultraviolet radiation is a compound of structure 3-benzylidene camphor.
4. Composition according to Claim 3, characterized in that the hydrophilic agent which screens ultraviolet radiation corresponds to the following formula (I):



in which:

- Z denotes a group:

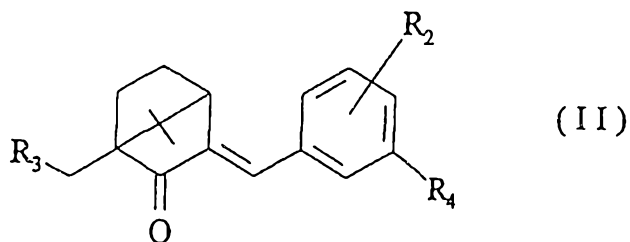


- n denotes 0 or an integer greater than or equal to 1 and less than or equal to 4,

- R_1 represents 1 or more identical or different, linear or branched alkyl or alkoxy radicals containing 1 to 4 carbon atoms.

5. Composition according to Claim 4, characterized in that the compound of formula (I) is benzene-1,4-di(3-methylidenecamphor-10-sulphonic) acid.

6. Composition according to Claim 3, characterized in that the hydrophilic agent which screens ultraviolet radiation corresponds to the following formula (II):



in which

- R_2 denotes a hydrogen atom, a halogen atom, an alkyl radical containing 1 to 4 carbon atoms or a $-SO_3H$ radical,

- R_3 and R_4 denote a hydrogen atom or a $-SO_3H$ radical, at least one of the radicals R_2 , R_3 or R_4

denoting the $-SO_3H$ radical, it not being possible for R_2 and R_4 simultaneously to denote a $-SO_3H$ radical.

7. Composition according to Claim 6, characterized in that, in formula (II), R_2 denotes the $-SO_3H$ radical in a position para to the benzylidene camphor and R_3 and R_4 each represent a hydrogen atom.

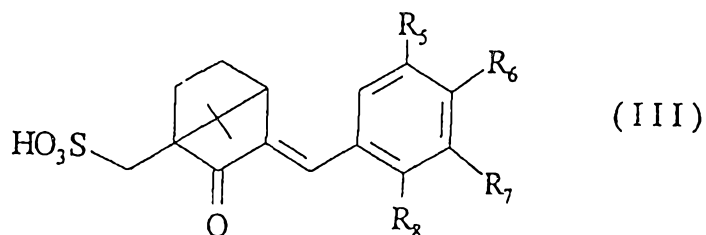
8. Composition according to Claim 6, characterized in that, in formula (II), R_2 and R_4 each represent a hydrogen atom and R_3 denotes $-SO_3H$.

9. Composition according to Claim 6, characterized in that, in formula (II), R_2 denotes the methyl radical in a position para to the benzylidene camphor, R_4 , radical, represents the SO_3H radical and R_3 denotes a hydrogen atom.

10. Composition according to Claim 6, characterized in that, in formula (II), R_2 denotes a chlorine atom in a position para to the benzylidene camphor, R_4 denotes the radical $-SO_3H$ and R_3 denotes a hydrogen atom.

11. Composition according to Claim 6, characterized in that, in formula (II), R_2 denotes the methyl radical in a position para to the benzylidene camphor, R_4 denotes a hydrogen atom and R_3 denotes the $-SO_3H$ radical.

12. Composition according to Claim 3, characterized in that the hydrophilic agent which screens ultraviolet radiation corresponds to the following formula (III):



in which:

- R_5 and R_7 , which are identical or different, denote a hydrogen atom, a hydroxyl radical, a linear or branched alkyl radical containing 1 to 8 carbon atoms or a linear or branched alkoxy radical containing 1 to 8 carbon atoms, at least one of the radicals R_5 and R_7 representing a hydroxyl, alkyl or alkoxy radical,
- R_6 and R_8 , which are identical or different, denote a hydrogen atom or a hydroxyl radical, at least one of the radicals R_6 and R_8 denoting the hydroxyl radical,
- on condition that, when R_5 and R_8 denote hydrogen and R_6 denotes the hydroxyl radical, R_7 does not denote an alkoxy radical or a hydrogen atom.

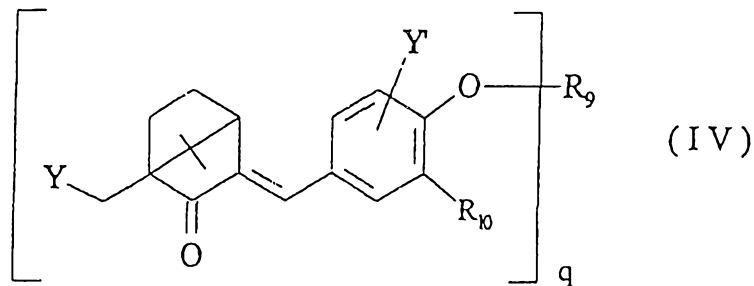
13. Composition according to Claim 12, characterized in that, in formula (III), R_5 is a methyl radical, R_6 is a hydrogen atom, R_7 is a tert-butyl radical and R_8 is a hydroxyl radical.

14. Composition according to Claim 12, characterized in that, in formula (III), R_5 is a methoxy radical, R_6 is a hydrogen atom, R_7 is a tert-butyl radical and R_8 is a hydroxyl radical.

15. Composition according to Claim 12,

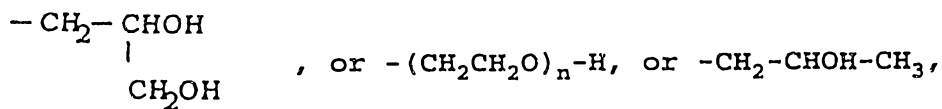
characterized in that, in formula (III), R_5 and R_7 each denote a tert-butyl radical, R_6 denotes a hydroxyl radical and R_8 denotes a hydrogen atom.

16. Composition according to Claim 3,
 5 characterized in that the hydrophilic agent which screens ultraviolet radiation corresponds to the following formula (IV):



in which

- R_9 denotes a hydrogen atom, a linear or branched
 10 alkyl radical containing 1 to 18 carbon atoms, a linear or branched alkenyl radical containing 3 to 18 carbon atoms, a group chosen from:



or $-(\text{CH}_2)_m-$ or $-\text{CH}_2-\text{CHOH}-\text{CH}_2-$, n being an integer
 15 between 1 and 6 ($1 \leq n \leq 6$) and m an integer between 1 and 10 ($1 \leq m \leq 10$),

- R_{10} denotes a hydrogen atom, an alkoxy radical containing 1 to 4 carbon atoms, or a divalent $-\text{O}-$

radical bonded to the R_9 radical when the latter is also divalent,

- q denotes an integer equal to 1 or 2, it being understood that if q is equal to 2, R_9 must denote a
5 divalent radical.

- Y and Y' denote a hydrogen atom or a $-SO_3H$ radical, at least one of these radicals Y or Y' is different from hydrogen.

17. Composition according to Claim 16,
10 characterized in that, in formula (IV), q is equal to 1, Y and R_{10} each denote a hydrogen atom, R_9 denotes a methyl radical, Y' in position 3 denotes a $-SO_3H$ radical.

18. Composition according to Claim 16,
15 characterized in that, in formula (IV), q is equal to 1, Y denotes a $-SO_3H$ radical, Y' denotes a hydrogen atom, R_{10} denotes a divalent $-O-$ radical bonded to R_9 which denotes a methylene radical.

19. Composition according to Claim 16,
20 characterized in that, in formula (IV), q is equal to 1, Y denotes a $-SO_3H$ radical, Y' and R_{10} both denote a hydrogen atom, and R_9 denotes a methyl radical.

20. Composition according to Claim 16,
characterized in that, in formula (IV), q is equal to
25 1, Y denotes a $-SO_3H$ radical, Y' denotes a hydrogen atom, R_9 denotes a methyl radical and R_{10} denotes a methoxy radical.

21. Composition according to Claim 16,

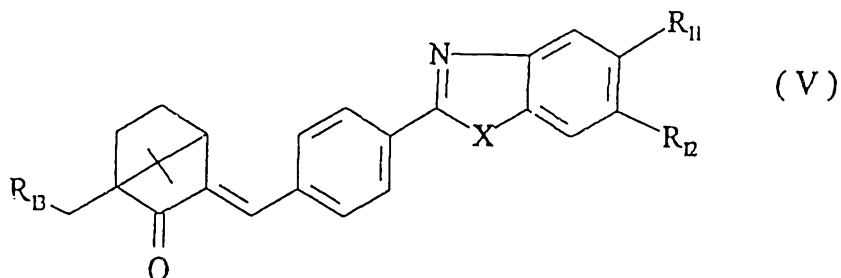
characterized in that, in formula (IV), q is equal to 1, Y denotes a $-\text{SO}_3\text{H}$ radical, Y' and R_{10} both denote a hydrogen atom, and R_9 denotes a n -butyl radical.

22. Composition according to Claim 16,

5 characterized in that, in formula (IV), q is equal to 1, Y denotes a $-\text{SO}_3\text{H}$ radical, Y' denotes a hydrogen atom, R_9 denotes a n -butyl radical and R_{10} denotes a methoxy radical.

23. Composition according to Claim 3,

10 characterized in that the hydrophilic agent which screens ultraviolet radiation corresponds to the following formula (V):



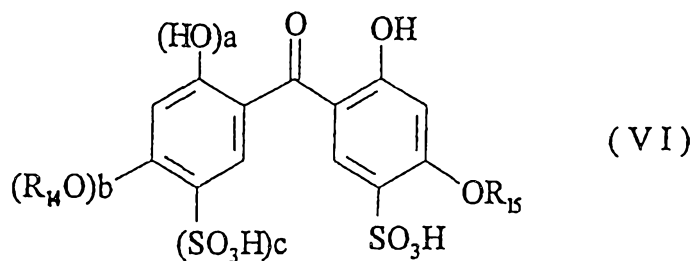
in which:

- R_{11} denotes a hydrogen atom or a linear or branched alkyl or alkoxy radical containing 1 to 6 carbon atoms or a $-\text{SO}_3\text{H}$ radical,
- R_{12} denotes a hydrogen atom or a linear or branched alkyl or alkoxy radical containing 1 to 6 carbon atoms,
- R_{13} denotes a hydrogen atom or a $-\text{SO}_3\text{H}$ radical,
- 20 - at least one of the radicals R_{11} or R_{13} denotes a $-\text{SO}_3\text{H}$ radical,
- X is an oxygen or sulphur atom or a $-\text{NR}-$ group, R

being a hydrogen atom or a linear or branched alkyl radical containing 1 to 6 carbon atoms.

24. Composition according to Claim 23, characterized in that, in formula (V), X denotes a -NH- radical, R_{11} denotes a $-SO_3H$ radical, and R_{12} and R_{13} both denote a hydrogen atom.

25. Composition according to Claims 1 or 2, characterized in that the hydrophilic agent which screens ultraviolet radiation is a compound of formula (VI):



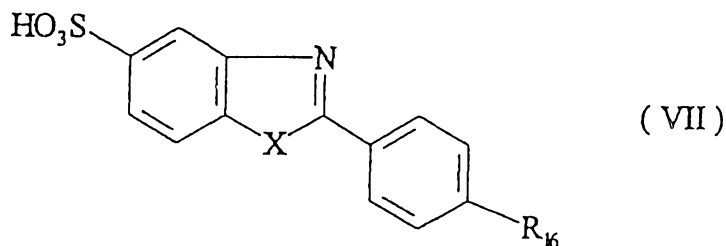
in which

- R_{14} and R_{15} , which are identical or different, denote a hydrogen atom or a linear or branched alkyl radical containing 1 to 8 carbon atoms,
- a , b and c , which are identical or different, are equal to 0 or 1.

26. Composition according to Claim 25, characterized in that, in formula (VI), $a=b=c=0$ and R_{15} denotes a methyl radical.

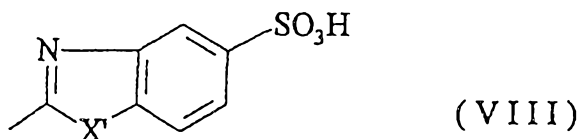
27. Composition according to Claims 1 or 2, characterized in that the hydrophilic agent which screens ultraviolet radiation is a compound of formula

(VII)



in which:

- X denotes an oxygen atom or a -NH- radical,
- R₁₆ denotes a hydrogen atom, a linear or branched alkyl or alkoxy radical containing 1 to 8 carbon atoms or a group of formula (VIII)



in which X' denotes, independently of X, an oxygen atom or a -NH- radical.

28. Composition according to Claim 27, characterized in that, in formula (VII), X denotes the -NH- radical and R₁₆ denotes a hydrogen atom.

29. Composition according to Claim 27, characterized in that, in formula (VII), X denotes the -NH- radical and R₁₆ denotes a group of formula (VIII) with X' denoting the -NH- radical.

30. Composition according to Claim 27

characterized in that, in formula (VII), X denotes an oxygen atom and R_{16} denotes the group of formula (VIII) with X' denoting an oxygen atom.

31. Composition according to any one of the preceding claims, characterized in that the specific surface of the said inert adsorbent filler is at least 10 m²/g, preferably at least 50 m²/g and even more preferably at least 100 m²/g.

32. Composition according to any one of the preceding claims, characterized in that the said inert adsorbent filler is chosen from the group consisting of silicas, aluminas, aluminosilicates, zeolites, talc and magnesia.

33. Composition according to Claim 32, characterized in that the inert adsorbent filler is a fumed or precipitated adsorbent silica or a silica gel.

34. Composition according to any one of the preceding claims, characterized in that it contains approximately 0.2 to 10% by weight of hydrophilic agent which screens ultraviolet radiation, and preferably approximately 0.25 to 6% by weight with respect to the total weight of the composition.

35. Composition according to any one of the preceding claims, characterized in that it contains the inert adsorbent filler in a proportion of between approximately 0.15 and 5% by weight, and preferably between approximately 0.2 and 3% by weight, with respect to the total weight of the composition.

36. Composition according to any one of the preceding claims, characterized in that it furthermore contains one or more complementary hydrophilic or lipophilic sunscreens which are active in the UVB
5 and/or UVA ranges, other than the acidic hydrophilic screens according to Claim 1.

37. Composition according to Claim 36, characterized in that the complementary sunscreens are chosen from cinnamates, salicylates, derivatives of
10 benzylidene camphor, derivatives of triazine, derivatives of benzophenone, derivatives of dibenzoyl methane, derivatives of β,β -diphenylacrylate, derivatives of p-aminobenzoic acid, menthylanthranilate, screening polymers and screening
15 silicones.

38. Composition according to Claim 37, characterized in that the complementary sunscreens are chosen from the group comprising 4-tert-butyl-4'-methoxydibenzoylmethane, 2-ethylhexyl-2-cyano-3,3-
20 diphenylacrylate and 3-(4-methylbenzylidene)-camphor.

39. Composition according to any one of the preceding claims, characterized in that it furthermore contains, as complementary photoprotective agents, coated or uncoated metal oxide nanopigments capable of
25 physically blocking UV radiation by scattering and/or reflection.

40. Composition according to any one of the preceding claims, characterized in that it furthermore

comprises cosmetic adjuvants chosen from fats, organic solvents, nonionic thickeners, emollients, antioxidants, opacifying agents, stabilizers, silicones, anti-foaming agents, moisturisers, 5 fragrances, preservatives, nonionic surfactants, fillers, sequestering agents, nonionic polymers, propellants, basifying or acidifying agents and dyes.

41. Composition according to any one of the preceding claims, characterized in that it constitutes 10 a protective composition for the human epidermis or an antison composition.

42. Composition according to any one of Claims 1 to 40, characterized in that it constitutes a make-up composition for the eyelashes, eyebrows or 15 skin.

43. Composition according to any one of Claims 1 to 40, characterized in that it constitutes a composition for protecting the hair against ultraviolet rays.

44. Use of the compositions defined in any one of the preceding claims as, or for the manufacture of, cosmetic compositions for protecting the skin and/or the hair against ultraviolet radiation, in particular solar radiation. 20

45. Cosmetic treatment method for protecting the skin and/or the hair against ultraviolet radiation, in particular solar radiation, characterized in that it consists in applying thereto an effective quantity of a 25

composition as defined in any one of Claims 1 to 43.

46. Use of an inert insoluble adsorbent filler, in particular a silica, in order to improve the water resistance of an antisun cosmetic composition of
5 the oil-in-water emulsion type which contains, as photoprotective agent, a hydrophilic UV screen including at least one acid, in particular sulphonic, radical.

DATED THIS 23RD DAY OF MARCH 1995

L'OREAL

By its Patent Attorneys:
GRIFFITH HACK & CO.

Fellows Institute of Patent
Attorneys of Australia



ABSTRACT

COSMETIC SCREENING COMPOSITIONS CONTAINING
AN ACID HYDROPHILIC AGENT AND USE

The invention relates to cosmetic screening compositions containing, in a cosmetically acceptable vehicle of the oil-in-water emulsion type, (i) at least one hydrophilic agent which screens ultraviolet radiation and includes at least one optionally neutralized acid radical, and (ii) at least one insoluble filler which is inert and adsorbent with regard to the said hydrophilic agent.

Application to protecting the skin and the hair against the effects of ultraviolet radiation.