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(71) Applicant (for all designated States except US): **ICC S.r.l.** [IT/—]; Via Tri Plok, 37, I-24060 Gorlago (BG) (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RAVERA, Elettra** [IT/IT]; c/o ICC S.r.l., Via Tri Plok, 37, I-24060 Gorlago (BG) (IT). **RAVERA, Dania Maria** [IT/IT]; c/o ICC S.r.l., Via Tri Plok, 37, I-24060 Gorlago (BG) (IT).

(74) Agent: **TRUPIANO, Federica**; Marietti, Gislon e Trupiano S.r.l., Via Larga, 16, I-20122 Milan (IT).

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(54) Title: COSMETIC COMPOSITION FOR THE TREATMENT OF HANDS AND/OR FEET

(57) Abstract: The present invention relates to a new cosmetic composition for the treatment of hands and/or feet, in particular for the treatment of nails. The composition according to the invention is a nail varnish, a product for the care of nails, a base for nails, a surface coating for nails, a product for removing nail varnish.



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COSMETIC COMPOSITION FOR THE TREATMENT OF HANDS AND/OR FEET

DESCRIPTION

PRIOR ART

5 In the cosmetic field, products for the care and beauty of hands and feet have always had a prevailing role. In the case of the hands, for example, given their continuous movement and regular exposure to atmospheric and other agents, great care is required. In fact, manual work, repeated contact with water, the action of the cold and of pollution can seriously compromise their beauty. Therefore, it is very
10 important to choose suitable delicate detergents with neutral or acid pH. After washing the hands it is also important to dry them carefully, given that water remaining on the skin can in fact cause roughness, and to massage them frequently with special moisturising cream. At the same time, particularly cold weather makes the hands dry as it alters the blood circulation and the skin does not receive enough
15 nourishing substances. Redness and irritation must therefore be opposed with hydrating and nourishing products or even with true anti-aging and dark spot treatments.

Among the natural remedies that have been used for many years, extra-virgin olive oil is very effective to make the skin of the hands soft and smooth. For this reason,
20 before going to sleep at night, the oil can be used to massage the hands as if it were a normal cream.

The feet are often greatly neglected, at times more neglected than the hands. The choice of footwear is often the cause of a noteworthy series of problems.

Care and treatment of the hands and feet also include the use of nail varnishes, which
25 can be of numerous types, with characteristics that differ greatly from one another.

According to some references, nail varnish was created around 3000 BC. Perhaps the Chinese and the ancient Egyptians were the first to use nail varnish as it is used today. The Chinese used lacquered dyes, produced from a combination of gum Arabic, egg white, gelatine and beeswax, but they also used compounds based on
30 rose, orchid and other petals mixed with alum. The ancient Egyptians used a type of

henna to dye their nails, with a red or reddish brown colour (henna, now used throughout the world as hair dye, is still used by some populations to dye their nails). Nefertiti, the wife of the pharaoh Akhenaton used to dye her wig and nails red, while Cleopatra used a dark red tending towards claret. The Incas used to paint their nails with pictures of eagles.

Since the 19th century a mixture of selected and purified red oils have been used to produce nail varnishes. Coloured powders and creams were used for nails in the subsequent century. Many nail varnishes are composed of nitrocellulose dissolved in solvents and mixed with dyes. The base components are the following: film-forming agents, resins and plasticizing agents, solvents and colouring agents. Resins are used to give the varnish adhesive properties and brilliance, while film-forming agents are used to protect the nail and give transparency and adhesion. Compounds with gelifying action are used to maintain the pigments and nitrocellulose plasticizing agents in suspension to paint the nail. Anti-UV agents are also present to protect against the changes caused by light. Solvents are present in the compositions of nail varnishes to accelerate the time required to dry the varnish, while thinners are used to dilute the ingredients present. Recently, an effort has been made to provide nail varnish compositions without toxic residues, such as phthalates, toluene and formaldehyde.

There are also water-based nail varnishes, composed of emulsions of acrylic polymers, such as the styrene-acrylate copolymer, with colours similar to those used in water soluble paints. These water-based products are considered more environmentally friendly and less harmful for the final user's health. However, they have some drawbacks with respect to "conventional" solvent-based nail varnishes, such as being more difficult to apply, decreased uniformity and homogeneity of the varnish after application and drying and a lower duration in time.

Nail varnishes were conventionally produced in light colours, or in reds, pinks or browns. Currently, a wide variety of new colours have been developed, accompanied by systems capable of allowing the reproduction of patterns of various shapes, both by applying adhesives directly to the varnished nail, and, for example, through

applying a magnetic field to the varnish immediately after application. In this latter case, the varnish to be applied is enriched with metal particles which are sensitive to application of a magnet, and consequently oriented in a uniform manner with respect to lines and/or patterns corresponding to the magnetic field applied. The effect
5 obtained is that of contrasting geometric patterns on the varnish applied. In theory, this technique is within the reach of any user, even those without expertise and not skilled in the art, although a certain degree of ability and dexterity are naturally required, above all to obtain the same geometric pattern on all the nails, and the result is often unsatisfactory.

10 However, there is still a significant demand for cosmetic products for the hands and feet, in particular products for the treatment of nails, which are original and offer unexpected effects, but with properties such that they are non-aggressive and non-toxic.

OBJECTS OF THE INVENTION

15 Therefore, the object of the present invention is to provide a product for the treatment of hands and/or feet, in particular for the treatment of nails, which makes it possible to provide, after application, an alternative result with respect to known products, while maintaining optimum nutritional, emollient and/or protective properties.

A further object of the present invention is to provide a product for the treatment of
20 hands and/or feet, in particular for the treatment of nails, which makes it possible to obtain, after application, a beneficial effect, both local and general.

DESCRIPTION

These and yet other objects which will be more apparent from the description below are obtained by a cosmetic composition for the treatment of hands and/or feet, which
25 comprises: at least one film-forming component with adhesive properties, at least one solvent, at least one plasticizing agent, microspheres/microcapsules containing at least one product of natural and/or synthetic origin also called "additional component" or additive.

According to the present invention, said cosmetic composition for the treatment of
30 hands and/or feet is a cosmetic composition for the treatment of nails and, more in

particular, is a nail varnish, a product for the care of nails, a base for nails, a surface coating for nails, a product for removing varnish from nails.

Again according to the present invention, said film-forming component is selected from: vegetable oils, synthetic oils, nitrocellulose, cellulose acetate butyrate,
5 synthetic (acrylic, epoxy) resins, acrylic polymers, methacrylic polymers, acrylic/styrene polymers, polyurethanes, pyrrolidone derivatives.

Again according to the present invention, said solvent is selected from organic solvents and/or inorganic solvents and/or water and mixtures thereof, and/or vegetable oils, and/or synthetic oils.

10 Again according to the invention, said plasticizing agent is selected from acetyl tributyl citrate, trimethyl pentanyl diisobutyrate, sucrose acetate isobutyrate, triacetin, polyvinyl pyrrolidone, polyvinyl alcohol.

Also according to the invention, said microspheres/microcapsules are anionic silicone microcapsules of the type currently marketed as "Bon Ton 21521 μ S" by the
15 Settler srl Company, San Lazzaro di Savena (BOLOGNA). These microspheres have an average diameter of 9 micron, a viscosity of 610 mPas (measured with a Haake viscometer), an active content of 35% by weight of the mixture and a pH of 6.

According to the present invention, said microcapsules/microspheres are liposoluble and/or hydrosoluble and preferably are silicone-based.

20 Said product of natural and/or synthetic origin which is contained in the microspheres/microcapsules according to the invention is selected from: fragrances, perfumes, pigments, lacquers, dyes, glitters, micas, pearls, metals, vitamins, oils, extracts, amino acids, lipids, collagen.

More in particular, said fragrances are fragrances with or without allergens, said
25 micas are synthetic or natural, said pearls are borosilicate or fillers, said oils are essential oils, oils of vegetable or animal origin, said extracts are lipophilic and/or hydrophilic vegetable or animal extracts, said amino acids are natural or synthetic or semisynthetic.

Particularly preferred, according to the present invention, is a cosmetic composition
30 for the treatment of hands and/or feet, in particular for the treatment of nails, which is

a nail varnish in which said film-forming component is nitrocellulose, said solvent is butyl acetate or ethyl acetate, said plasticizing agent is acetyl tributyl citrate, said microspheres/microcapsules are silicone microspheres of the type currently marketed as "Bon Ton 21521 μ S" by the Settler srl Company, San Lazzaro di Savena (BOLOGNA), with average diameter of 9 micron, viscosity of 610 mPas (measured with a Haake viscometer), active content of 35% by weight of the mixture and pH of 6, said product of natural and/or synthetic origin is at least one fragrance and/or at least one perfume.

The cosmetic composition according to the present invention has numerous advantages with respect to prior art compositions, above all in the case in which this is a cosmetic composition suitable for the treatment of nails. In this case, in fact, the microspheres/microcapsules containing said product of natural and/or synthetic origin are capable of isolating the product contained therein with respect to the other components of the cosmetic composition, in particular with respect to said solvent, thus preventing damage, degradation or evaporation of the product, if placed in direct contact with this solvent. Once the solvent has evaporated, or has been at least partially absorbed in the case of water or water-based solvent, the microspheres/microcapsules will be adapted to release the product contained therein, without this having sustained any damage or degradation.

A particular case is represented by the cosmetic compositions of the present invention in the form of nail varnishes. In this case, the microspheres/microcapsules can contain, in a preferred embodiment, fragrances and/or perfumes. It is evident that if the perfume or fragrance were dissolved directly in the varnish, when the solvent evaporates or when the water is partially absorbed (in the case of partially or totally water-based solvents), this would also cause partial or total evaporation of the fragrance or perfume. This would cause a pleasant scent to develop during application of the nail varnish, but this scent would disappear completely as soon as the varnish dries and the solvent is totally/partially evaporated and/or absorbed. The result would be that of obtaining a nail varnish scented at the time of use, but it would be impossible to obtain a scent that lasts over time.

With the composition according to the invention in the form of nail varnish, it is instead possible to maintain the scent for several days after the varnish has dried and the solvent has been completely evaporated/absorbed. In this way, it is possible to obtain varnished nails that emit a pleasant and intense scent, which can be selected according to personal taste and habits. At the same time, the fragrance or scent contained in the microspheres/microcapsules is protected from aggressions caused by other components of the cosmetic composition, and from damage caused by exposure of the nail varnish to light and to changes in temperature.

Breakage of the microspheres/microcapsules subsequent to drying of the varnish (i.e. subsequent to evaporation/absorption of the solvent) therefore allows the fragrance or perfume contained therein to be released and the scent to last over time.

Moreover, according to a further aspect of the present invention, breakage of the microcapsules can take place, at least partially, again subsequent to drying of the varnish, by rubbing and due to friction between the surface of the varnish, once it has dried, and other elements, such as the hands and feet when they rub together, and/or additional elements such as primary or secondary packaging, or friction between the hands and feet and towels or by any other system of rubbing, even slight.

This means that an initial release of fragrance/essence/scent contained in the microspheres/microcapsules, which takes place in conjunction with evaporation/absorption of the solvent, can be followed by gradual release of the same fragrance/essence/scent always contained in the microspheres/microcapsules by rubbing, with consequent persistence of the scent over time.

In the case of cosmetic compositions according to the invention, for example represented by a product for removing varnish from nails, one of the numerous advantages is constituted by the fact that a pleasant scent can also be obtained during operations to remove the varnish, typically characterized by the presence of unpleasant odours, normally caused by the presence of the solvents required for removal operations. In this case, and in general also in all the cases described above, part of the microspheres/microcapsules can contain emollient, calming, nourishing substances, vitamins and other substances that can sustain and help to nourish and

maintain skin and/or nails in optimal conditions.

Again according to the invention, the microspheres/microcapsules can cause the release of products contained therein in one or more of the following cases: during application of the cosmetic composition, following application of the cosmetic composition, when the composition has partially dried, when the composition has completely dried. Moreover, again according to the invention, release of the product contained in the microspheres/microcapsules can take place through mechanical action, as already stated, releasing a product which is in turn constituted by the cosmetic composition according to the invention and which can help to repair cuts and/or imperfections caused by the mechanical action of agents of various kinds which ruin the surface of the nail varnish, causing damages such as "chipping". In this particular case, the content of the microspheres/microcapsules shall be such as to comprise/contain at least one of the following components: film forming agent, and/or solvent, and/or elasticizing agent, so as to be able to bond and adhere to the nail layer just as the product itself.

According to a preferred embodiment of the present invention, the microspheres/microcapsules used have an average diameter of between 0.005 micron and 3 millimetres. More in particular, in the case of a cosmetic composition that is a nail varnish, said microspheres/microcapsules have an average diameter of between 5 micron and 9 micron. In the case of a cosmetic composition that is a product for the treatment of nails, said microspheres/microcapsules have an average diameter of between 5 micron and 9 micron. In the case of a cosmetic composition that is a product for the care of nails, said microspheres/microcapsules have an average diameter of between 5 micron and 2 millimetres. In the case of a cosmetic composition that is a product for treating the surface of nails that have already been treated, said microspheres/microcapsules have an average diameter of between 5 micron and 9 micron. In the case of a cosmetic composition that is a product for treating the base of the nails to be used before treatment of said nails with other compositions, said microspheres/microcapsules have an average diameter of between 5 micron and 9 micron. In the case of a cosmetic composition that is a product for

removing varnish from nails, said microspheres/microcapsules have an average diameter of between 9 micron and 3 millimetres. In the case of a cosmetic composition that is a water-based product for removing varnish from nails, said microspheres/microcapsules have an average diameter of between 5 micron and 9 micron.

In practice, and as already stated above, the main characteristic of the cosmetic compositions according to the present invention is that they can be enriched with additional components with respect to conventional cosmetic compositions, such as fragrances, perfumes, glitters, vitamins, amino acids, essential oils, natural and non-natural active substances, photoluminescent, fluorescent, phosphorescent products, pigments, dyes, metals, as they are or also mixed with one another, maintaining these products unaltered and capable of fully performing their function, both aesthetic and/or substantial, in the cure of hands and feet. In fact, above all in the case of cosmetic compositions for application to nails, the presence of the solvent or of the liquid base that allows easy application thereof, but which must be removed to allow the composition to dry and remain on the nail, often causes a degradation and/or inactivation of the active substances contained, or of the aforesaid additional components. Moreover, evaporation of the solvent, whatever its nature, causes at least a significant part of the aforesaid additional components to evaporate with it, thus making them ineffective for the final user. Encapsulation in the microcapsules/microspheres of the additional components constituted by the products of natural and/or synthetic origin according to the invention, therefore makes it possible to limit the volatility when these are fragrances, to protect the characteristics thereof against aggression of other components of said composition, for example solvents, if present, to provide benefit to the nails, if these are emollient, nourishing, oils and other similar products, for example for the cuticles, both in the case of application and of removal of the nail varnishes. Instead, if these additional components are pigments, glitters and pearls, it will be possible to obtain particular, random and non-repeatable aesthetic effects, and for this reason particularly original and sought-after.

Again in the case of the use of perfumes, fragrances and essential oils, it will be possible to provide benefit and general relief also to the person to which this cosmetic treatment is applied, thanks to the release of aromas destined, in general for the psycho-physical well-being of the person.

CLAIMS

1. A cosmetic composition for the treatment of hands and/or feet which comprises: at least one film-forming agent, at least one solvent, at least one plasticizing agent, microspheres/microcapsules containing at least one product of natural and/or synthetic origin.
5
2. The cosmetic composition according to claim 1, characterized in that it is a cosmetic composition for the treatment of nails.
3. The cosmetic composition according to claim 2, characterized in that it is a product for the care of nails, a base for nails, a surface coating for nails, a product for removing varnish from nails.
10
4. The cosmetic composition according to claim 2, characterized in that it is a nail varnish.
5. The cosmetic composition according to claim 1, characterized in that said film-forming component is selected from: vegetable oils, synthetic oils, nitrocellulose, cellulose acetate butyrate, synthetic (acrylic, epoxy) resins, acrylic polymers, methacrylic polymers, acrylic/styrene polymers, polyurethanes, pyrrolidone derivatives.
15
6. The cosmetic composition according to claim 1, characterized in that said solvent is selected from organic solvents and/or inorganic solvents and/or water and mixtures thereof, and/or vegetable oils, and/or synthetic oils.
20
7. The cosmetic composition according to claim 1, characterized in that said plasticizing agent is selected from acetyl tributyl citrate, trimethyl pentanyl diisobutyrate, sucrose acetate isobutyrate, triacetin, polyvinyl pyrrolidone, polyvinyl alcohol.
- 25 8. The cosmetic composition according to claim 1, characterized in that said microspheres/microcapsules are silicone-based.
9. The cosmetic composition according to claim 8, characterized in that said microspheres/microcapsules are anionic silicone microcapsules with an average diameter of 9 micron, a viscosity of 610 mPas, an active content of 35% by weight of the mixture and a pH of 6.
30

10. The cosmetic composition according to claim 1, characterized in that said product of natural and/or synthetic origin contained in said microspheres/microcapsules is selected from: fragrances, perfumes, pigments, dyes, glitters, micas, pearls, metals, vitamins, oils, extracts, amino acids, lipids, collagen.

5 11. The cosmetic composition according to claim 1, characterized in that it is a nail varnish where said film-forming component is nitrocellulose, said solvent is butyl acetate or ethyl acetate, said plasticizing agent is acetyl tributyl citrate, said microspheres/microcapsules are silicone microspheres of the type currently marketed
10 as "Bon Ton 21521 μ S" by the Settler srl Company, San Lazzaro di Savena (BOLOGNA), said product of natural and/or synthetic origin is at least one fragrance and/or at least one perfume.

12. The cosmetic composition according to claim 1, characterized in that said microspheres/microcapsules have an average diameter between 0.005 micron and 3 millimetres.

15 13. Use of the cosmetic composition according to claim 1 for the treatment of fingernails and/or toenails.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2012/001033

A. CLASSIFICATION OF SUBJECT MATTER INV. A61K8/11 A61K8/37 A61K8/73 A61K8/81 A61K8/89 A61Q3/02 A61Q3/04 ADD.		
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) A61K A61Q 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) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. </div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-size: 1.2em;">22 February 2013</div>		Date of mailing of the international search report <div style="text-align: center; font-size: 1.2em;">06/03/2013</div>
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center; font-size: 1.2em;">Miller, Bernhard</div>

INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Information on patent family members

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