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(54) PROCESS FOR IMPROVING THE APPEARANCE OF GREASY HAIR AND/OR GREASY SKINS AND COMPOSITIONS THEREFOR

- (71) We, L'OREAL, a French Body Corporate, of 14, rue Royale, 75008 Paris, France, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- This invention relates to a process for improving the appearance of greasy hair and/or greasy skins.
- It is known that the lipid film present on the surface of the scalp essentially consists of the sebum produced by the secretion of the sebaceous glands and the cutaneous lipids originating from the cells of the epidermis. The majority of authors group all of this fatty phase under the generic name of "sebum".
- Starting from puberty, and generally for a period of 10 to 20 years, an exaggerated functioning of the sebaceous glands is observed; the lipid film therefrom is increased. The skin and the hair assume a shiny and greasy appearance. The hair is heavy, sticky and difficult to style. Correspondingly, the time within which a greasy appearance returns after shampooing diminishes and in order to maintain an appearance suitable for styling the hair, it is necessary to shampoo the hair frequently.
- Numerous investigations have been carried out for many years on this problem; two entirely different solutions have emerged.
- The first solution involves searching for a biological or medical method for controlling complex internal phenomena and which most frequently involves the oral administration of certain substances in order, in particular, to regularise hormonal equilibria. This method thus proposed antiseborrheic products which slow down the functioning of the sebaceous glands.
- A second solution is an essentially cosmetic method. In contrast to the first method, this does not involve searching for products which slow down the elimination of the sebum, but of altering the appearance of the hair or of the skin, and masking the lipid film, in other words of reducing the adverse cosmetic effects due to the presence of an excess of lipids on the human scalp or on the skin.
- There already exists a category of sebum "absorber" products which have given rise to a large variety of dry shampoos. However, these shampoos, generally based on powders such as talc, kaolin, starch or various synthetic polymers, impart a whitish powdery appearance to the head of hair, which is very difficult to remove by brushing as a result of the keratin fibre becoming electrified under the action of repeated brushing. This electrification thus resists the complete removal of the powders.
- It has now been found, according to the present invention, that the use of an aqueous solution of gelatin makes it possible to improve the appearance of greasy hair and/or of greasy skins by modifying and masking their greasy appearance.
- According to the present invention an aqueous or aqueous alcoholic solution containing from 0.5 to 1.5% by weight of gelatin is applied to the skin or to the scalp and/or to the hair; normally this is then dried or allowed to dry.
- The greasier the appearance of the skin and/or of the hair, the larger the amount of gelatin applied must be.
- Preferably, the gelatin concentration of the aqueous solution varies from 0.6 to 1.2%, especially from 0.8 to 1.2% by weight. The aqueous gelatin solution is preferably an aqueous-alcoholic solution. It can, for example, contain up to 40%, especially up to 30%, by weight of an alcohol which can be used in cosmetology, such as ethanol or isopropanol.
- In general, the compositions also contain a preservative. The preservative is an anti-bacterial agent and/or an anti-oxidant.
- Suitable anti-bacterial agents include methyl, ethyl, propyl, butyl or benzyl p -

hydroxybenzoate, dichlorophene, parachlorometaxyleneol, parachlorometacresol, p - chlorphenylpropanediol, 2 - bromo - 2 - nitropropane - 1,3 - diol, beta - phenoxyethyl alcohol, beta - p - chlorphenoxyethyl alcohol, beta - phenoxypropyl alcohol, 8 - hydroxyquinoline, p - chlorphenyl glyceryl ether and monomethyl dimethyl hydantoin. Suitable anti-oxidants include guaiacum resin, propyl gallate, butylated hydroxyanisole, butylated hydroxytoluene, trihydroxybutyrophene and hydroquinone.

The concentration of preservative is generally from 0.001 to 0.5% by weight, especially from 0.05 to 0.3% by weight for the anti-bacterial agents and 0.005 to 0.15% by weight for the anti-oxidants.

The lotion made up in this way can be coloured and/or perfumed, if desired.

In the lotion, the gelatin is usually the sole or principal active ingredient.

The composition may also contain forming polymer which is soluble in water or in an aqueous-alcoholic solution and which, after evaporation of the solvent, gives a transparent film which makes it possible to improve the appearance and the touch of the hair. This polymer is preferably one capable of giving, by itself, a viscosity of less than 5 cps in 4% solution, for example aqueous at 25°C.

These polymers are of course polymers which are compatible with gelatin and contribute to the improvement of the appearance and touch of the hair. Examples of such polymers include the partially hydrolysed polyvinyl acetates capable of giving 4% by weight aqueous solutions having a viscosity of less than 5 cps at 25°C; amongst these, there may in particular be mentioned those with an ester number of less than 200, especially less than 150, such as the products marketed under the name of "Rhodoviol 4/20" and "Rhodoviol 4/125" "Rhodoviol" is a Registered Trade Mark.

Compositions comprising an aqueous or aqueous-alcoholic solution containing from 0.5 to 1.5% by weight of gelatin, a preservative and the film-forming polymer form another aspect of the present invention.

Where the lotion is intended to be used on the hair, the aqueous or aqueous gelatin solution can contain up to 30% by weight based on the weight of the gelatin of the polymer.

The process of the invention is preferably carried out in accordance with one of the embodiments described below.

According to a first embodiment, the gelatin solution is applied to the hair in a sufficient amount to impregnate the hair, after which the hair is combed out and dried.

This first embodiment of the process of the invention is preferably carried out substantially halfway between two consecutive shampoos. In other words, depending on the frequency of consecutive shampoos, the process is carried out on hair which was washed two to four days previously.

The gelatin solution is applied in sufficient amount to impregnate the hair, but generally without an excess. In general, from 5 to 20 cm³ of the solution are applied.

According to a preferred version of this first embodiment, the head of hair is impregnated with the gelatin solution, and, if desired, is massaged gently, the hair is combed out if desired, the solution is allowed to act for a few minutes, for example for 2 to 10 minutes, and the hair is dried and then combed and/or brushed.

According to a second embodiment, the gelatin solution is applied to the scalp with a suitable means of application and is then dried.

According to this second embodiment, the gelatin solution is applied to the scalp in sufficient amount to impregnate the latter. This impregnation can be carried out in accordance with conventional techniques of impregnating the scalp and/or the base of the hair, preferably by dabbing the scalp with, for example, cottonwool impregnated with the gelatin solution, or with the aid of an applicator of small cross-section located on the mouth of a vessel containing the gelatin solution.

According to this second embodiment, the process is preferably carried out shortly after a shampoo, generally 24 hours after the shampoo.

If desired, the application of the gelatin solution, according to this second embodiment, can be repeated 48 hours after the shampoo, or even daily. In this latter case, it is appropriate to use solutions having a low gelatin content, or to use only a small amount of the gelatin solution.

For carrying out the process of the invention according to the first or the second embodiment, the aqueous gelatin solution can contain up to 40% and in particular from 5 to 25% by weight of alcohol.

According to a third embodiment, the gelatin solution is applied to the skin which has a greasy and shiny appearance, and in particular to the skin of the face, wherever it is considered necessary, after which the solution is allowed to dry.

This third embodiment can in particular be carried out as follows: a cottonwool pad is impregnated with the gelatin solution, the skin of the face is dabbed, in particular over the parts which have a greasy appearance, and the solution is then allowed to dry.

Preferably, this application of the gelatin solution is carried out after cleansing the skin.

- 5 For this embodiment, it is preferred to use gelatin solutions which do not contain more than 15% by weight of an alcohol such as ethanol or isopropanol.

The following Examples further illustrate the present invention.

10 EXAMPLE 1

A lotion for improving and masking the appearance of greasy hair is prepared, according to the invention, by mixing the following ingredients:

15	Ethyl alcohol	30 g
	Methyl para-hydroxybenzoate	0.2 g
	Gelatin	1.5 g
	Perfume	0.02 g
	Antioxidant	0.06 g
20	Sterile demineralised water, q.s.p.	100 g

- 10 to 20 cm³ of this lotion are applied to greasy hair three days after a shampoo. The hair is combed and then dried. Hair having a pleasant appearance and touch, comparable to hair which has just been shampooed, is obtained.

EXAMPLE 2

- 30 A lotion for improving the appearance of greasy hair is prepared, according to the invention, by mixing the following ingredients:

	Isopropyl alcohol	25 g
35	1 - (3 - Chloroallyl) - 3,5,7 - triaza - 1 - adamantane (preservative)	0.1 g
	Gelatin	1 g
	Perfume	0.1 g
	Antioxidant	0.05 g
40	Partially hydrolysed polyvinyl acetate having a viscosity of 4 cps in a 4% strength aqueous solution at 25°C, known by the trade name of "Rhodoviol 4/20"	0.25 g
45	Sterile demineralised water, q.s.p.	100 g

- 50 As a result of applying 5—10 cm³ of this lotion four days after a shampoo, to hair which has a greasy and aesthetically unattractive appearance, it is found that after combing and drying the hair, the latter has a normal non-greasy appearance, holds well and is pleasant to the touch.

55 EXAMPLE 3

A composition intended to be applied to the scalp and/or to the base of the hair is prepared, according to the invention, by mixing the following ingredients:

	Ethyl alcohol	15 g	60
	Propyl para-hydroxybenzoate	0.2 g	
	Gelatin	0.8 g	
	Perfume	0.05 g	
	Sterile demineralised water, q.s.p.	100 g	65

This lotion is applied to the scalp and/or to the base of the hair by means of a dropper device, after which the hair is combed out and dried. The greasy appearance of the scalp disappears and the hair is prevented from rapidly becoming greasy again.

Preferably, such a lotion is applied 24 hours after a shampoo, which makes it possible to avoid excessively frequent washing of the hair. The application can be repeated 48 hours after the shampoo.

EXAMPLE 4

A lotion for masking the greasy appearance of the skin and especially of the face is prepared, according to the invention, by mixing the following ingredients:

	Ethyl alcohol	10 g	
	2 - Bromo - 2 - nitropropane - 1,3 - diol (preservative)	0.2 g	85
	Gelatin	1 g	
	Perfume	0.03 g	
	Antioxidant	0.06 g	
	Sterile demineralised water, q.s.p.	100 g	90

After applying this solution, by means of a cottonwool pad, to the parts of the face which have a greasy and shiny appearance (the chin, nose and so on), it is found that the skin exhibits a normal, that is to say non-shiny, appearance.

EXAMPLE 5

A lotion intended to be applied to greasy skins is prepared, according to the invention, by mixing the following ingredients:

	Ethyl alcohol	8 g	
	Methyl para-hydroxybenzoate	0.2 g	
	Gelatin	1.2 g	
	Perfume	0.01 g	105
	Antioxidant	0.05 g	
	Sterile demineralised water, q.s.p.	100 g	

It is possible to impart a normal non-shiny appearance to the face by applying this lotion to the greasy parts of the face by means of a pad.

EXAMPLE 6

A hair lotion is prepared by mixing the following ingredients:

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|----|---|--------|---|-----|
| | Ethanol | 15 g | comprises applying to the hair, skin or scalp | 55 |
| | Methyl and propyl para-hydroxybenzoate | 0.2 g | an aqueous or aqueous-alcoholic solution containing from 0.5 to 1.5% by weight of gelatin. | |
| | Gelatin | 1 g | | |
| 5 | Rhodoviol 4/125 | 0.2 g | 2. Process according to claim 1, in which the gelatin concentration in the solution is from 0.8 to 1.2% by weight. | 60 |
| | Perfume | 0.05 g | | |
| | Sterile demineralized water, q.s.p. | 100 g | 3. Process according to claim 1 or 2, in which the gelatin solution contains up to 40% by weight of a cosmetically acceptable alcohol. | 65 |
| 10 | This lotion can be used as described above in Examples 1 to 3. This eliminates the greasy appearance and prevents the hair from becoming greasy again between two consecutive shampoos. | | | |
| | EXAMPLE 7 | | | |
| 15 | A skin lotion is prepared by mixing the following ingredients: | | | |
| | Ethanol | 15 g | 4. Process according to claim 3, in which the gelatin solution contains up to 30% by weight of alcohol. | |
| | Methyl and propyl para-hydroxybenzoate | 0.2 g | 5. Process according to claim 3 or 4, in which the alcohol is ethanol or isopropanol. | 70 |
| 20 | Gelatin | 1 g | 6. Process according to any one of claims 1 to 5, for improving the appearance of greasy hair, which comprises applying to the hair an aqueous or aqueous-alcoholic gelatin solution which contains up to 30% by weight based on the weight of the gelatin of a film forming polymer which is soluble in water or in an aqueous-alcoholic solution, and gives, after evaporation, a transparent film which makes it possible to improve the appearance and the touch of the hair. | 75 |
| | Perfume | 0.02 g | | |
| | Antioxidant | 0.06 g | 7. Process according to claim 6, in which the polymer has a viscosity not exceeding 5 cps as a 4% by weight aqueous solution at 25°C. | 80 |
| | Sterile demineralised water, q.s.p. | 100 g | 8. Process according to claim 6 or 7, in which the film-forming polymer is a partially hydrolysed polyvinyl acetate. | 85 |
| 25 | The shiny and greasy appearance of the face is eliminated by applying this lotion. | | | |
| | EXAMPLE 8 | | | |
| | A lotion for the hair is prepared by mixing the following ingredients: | | | |
| | Ethanol | 40 g | 9. Process according to claim 8, in which the partially hydrolysed polyvinyl acetate has an ester number not exceeding 200. | 90 |
| 30 | Gelatin | 0.6 g | 10. Process according to claim 9, in which the partially hydrolysed polyvinyl acetate has an ester number not exceeding 150. | |
| | Rhodoviol 4/125 | 0.15 g | 11. Process according to any one of the preceding claims, for improving the appearance of greasy hair in which the gelatin solution is applied to the hair in an amount sufficient to impregnate the hair, after which the hair is combed out and dried. | 95 |
| | Perfume | 0.05 g | | |
| | Anti-oxidant | 0.05 g | 12. Process according to claim 11, which is carried out on hair which has been washed 2 to 4 days previously. | 100 |
| | Water q.s.p. | 100 g | 13. Process according to any one of claims 1 to 10, for improving the appearance of greasy hair, in which the gelatin solution is applied to the scalp in sufficient amount to impregnate the latter. | |
| 35 | By applying this lotion as described above one can eliminate the greasy appearance and prevent the hair from becoming greasy again between two shampoos. | | | |
| | EXAMPLE 9 | | | |
| 40 | A lotion for the skin is prepared by mixing the following ingredients: | | | |
| | Ethanol | 15 g | 14. Process according to claim 13, in which the application is carried out about 24 hours after a shampoo. | 105 |
| | Gelatin | 0.6 g | 15. Process according to claim 14, in which the application is repeated daily. | |
| | Rhodoviol 4/20 | 0.06 g | 16. Process according to any one of claims 1 to 10, in which the gelatin solution is applied to skin having a greasy and shiny appearance. | 110 |
| 45 | Perfume | 0.04 g | | |
| | Propyl para-hydroxybenzoate | 0.2 g | 17. Process according to claim 16, in | 115 |
| | Sterile demineralised water q.s.p. | 100 g | | |
| 50 | The application of this lotion to the skin of the face enables one to eliminate its shiny appearance. | | | |
| | WHAT WE CLAIM IS:— | | | |
| | 1. Process for improving the appearance of greasy hair and/or greasy skin which | | | |

which the gelatin solution is applied to the face.

18. Process according to any one of the preceding claims, in which an aqueous or aqueous-alcoholic solution contains gelatin as the principal active ingredient.

19. Process according to claim 1, substantially as hereinbefore described.

20. Process according to claim 1, substantially as described in any one of the Examples.

21. A composition suitable for application to the hair and for skin and/or scalp which comprises an aqueous or aqueous-alcoholic solution containing from 0.5 to 1.5% by weight of gelatin, a preservative and a film-forming polymer which is soluble in water or in an aqueous-alcoholic solution and gives, after evaporation of the solvent, a transparent film which makes it possible to improve the appearance and the touch of the hair.

22. A composition according to claim 21, which contains a colouring agent and/or perfume.

23. A composition according to claim 21 or 22, in which the polymer has a viscosity not exceeding 5 cps as a 4% aqueous solution at 25°C.

24. A composition according to any one of claims 21 to 23, in which the film-forming polymer is a partially hydrolysed polyvinyl acetate.

25. A composition according to any one of claims 21 to 24, suitable for application to hair which contains up to 40% by weight of a cosmetically acceptable alcohol.

26. A composition according to claim 25, which contains up to 30% by weight of alcohol.

27. A composition according to claim 25 or 26, which contains up to 30% by weight based on the weight of the gelatin of the film-forming polymer.

28. A composition according to any one of claims 21 to 24 suitable for application to the skin which contains up to 15% by weight of a cosmetically acceptable alcohol.

29. A composition according to claim 28, in which the alcohol is ethanol or isopropanol.

30. A composition according to any one of claims 21 to 29, which has one or more of the features of claims 2, 9 and 10.

31. A composition according to claim 21, substantially as hereinbefore described.

32. A composition according to claim 21, substantially as described in Example 2.

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