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D E C I S I O N
of 12 January 1995

Case Number: T 0260/93 - 3.3.2

Application Number: 87118848.8

Publication Number: 0271925

IPC: A61K 7/021

Language of the proceedings: EN

Title of invention:
Cosmetic compositions comprising water-in-oil emulsion containing pigment

Applicant:
Revlon Consumer Products Corporation

Opponent:
-

Headword:
Cosmetic Emulsions/REVLON

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no) - obvious development - no prejudice"

Decisions cited:
-

Catchword:
-

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Case Number: T 0260/93 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 12 January 1995

Appellant: Revlon Consumer Products Corporation
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Decision under appeal: **Decision of the Examining Division of the European Patent Office dated 7 October 1992 refusing European patent application No. 87 118 848.8 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: P. A. M. Lançon
Members: I. A. Holliday
E. M. C. Holtz

Summary of Facts and Submissions

I. European patent application No. 87 118 848.8 (publication No. 0 271 295) was refused by a decision of the Examining Division on the grounds of lack of inventive step. Claim 1 reads as follows:

"1. A cosmetic make-up composition which is a water-in-oil emulsion comprising

(a) an oil phase which comprises

(i) about 2 to 50 % by weight of the oil phase of a coated pigment whose surfaces are chemically bounded to, and physically completely coated by, polysiloxane which coating renders the particles hydrophobic, and

(ii) up to about 97 % by weight of the oil phase of a silicone component selected from the group consisting of dimethyl polysiloxane having the formula

$$(CH_3)_3SiO(Si(CH_3)_2O)_d\text{-}Si(CH_3)_3$$

wherein the degree of polymerization d is effective to give the fluid a viscosity of $0.65.10^{-6}$ to 10 m^2/s (0.65 to one million centistokes) at 25 °C; cyclomethicone having a degree of polymerization of 3 to 6; organopolysiloxane having the formula

$$X(CH_3)_2SiO\text{-}Y\text{-}Si(CH_3)_2X$$

wherein X is alkyl or alkoxy having 1 to 30 carbon atoms and Y is a chain of 1 to 100 repeating (Si-O) units containing 1 to 100 units of the formula $(-Si(R_1)(R_2)O-)$ and O to 100 units of the $(Si(R_3)(R_4)O)$ wherein each of R_1, R_2, R_3, and R_4 can be alkyl containing 2 to 30 carbon

atoms, phenyl, or phenyl connected to the Si atom by a vinyl group or an alkylene bridge 1 to 3 carbon atoms long; wherein each R_1 and R_3 can also be $-CH_3$ and each R_1 and R_2 can also be trimethylsiloxy; and mixtures thereof;

(b) 15 to 60 % by weight of the total composition of an aqueous phase;

(c) a surfactant which is a polydiorganosiloxane-polyoxyalkylene copolymer containing at least one polydiorganosiloxane segment consisting of

$$R_bSiO_{(4-b)/2}$$

siloxane units wherein b has a value of from 0 to 3 inclusive, there being an average of approximately 2 R radicals per silicon in the copolymer, and R denotes a radical selected from the group consisting of methyl, ethyl, vinyl, phenyl and a divalent radical bonding a polyoxyalkylene segment to the polydiorganosiloxane segment, at least 95 percent of all R radicals being methyl; and containing at least one polyoxyalkylene segment having an average molecular weight of less than 5000 and consisting of from 0 to 50 mol percent polyoxypropylene units and from 50 to 100 mol percent polyoxyalkylene units, at least one terminal portion of said polyoxyalkylene segment being bonded to said polydiorganosiloxane segment, any terminal portion of said polyoxyalkylene segment not bonded to said polydiorganosiloxane segment being satisfied by a terminating radical;

(d) and further comprising about 0.25 to 2 % by weight of the total composition of a silicone-free surfactant having an HLB of 2-12;

wherein said surfactants are present in a combined amount effective to form a stable emulsion of said water phase in said oil phase."

II. The Examining Division considered that the problem to be solved was to incorporate high loadings of pigment into water-in-oil emulsions known from US-A-4 122 029 (2) which emulsions comprised an oily phase which may be a dimethylsiloxane or a cyclopolysiloxane and an aqueous phase which contained as surfactant a mixture of a polydiorganosiloxane-polyoxyalkylene copolymer and a conventional silicone-free surfactant.

It was known from EP-A-O 133 968 (1) that finely divided pigment particles which are completely coated with polysiloxane could be incorporated into silicone fluids or mixtures of such fluids. The Examining Division took the view that the skilled person wishing to include pigments in the compositions known from (2) would be led by the teaching of (1) to add a silicone coated pigment. Such a pigment would be expected to disperse in the oily phase and so arrive at the compositions of the present application.

III. The Appellant lodged an appeal against the decision of the Examining Division. Oral proceedings took place on 12 January 1995.

IV. The Appellant's arguments both in the Statement of Appeal and at the oral proceedings may be summarised as follows:

The Appellant agreed that document (1), based on an earlier application by the Appellant, could be regarded as the closest state of the art. However, the Applicant emphasised that (1) was concerned with a single phase anhydrous composition and pointed to several passages in

the description which confirmed this. It was also to be noted that, in order to disperse them, the pigment particles were coated with polysiloxanes; such treatment rendered the particles hydrophobic.

On the other hand, document (2), although concerned with water-in-oil emulsions containing organopolysiloxanes analogous to those of the present application, gave no incentive to add anything to the oily phase. Additives, such as antiperspirants, used according to (2) were included in the aqueous phase. The vague reference to "colorants" referred to by the Examining Division could not be construed as an incentive to add pigments.

The essential argument was that the teachings of documents (1) and (2) were unrelated and that the skilled person would have had no incentive to combine them.

The Appellant also referred to US-A-4 532 132 (3) and US-A-4 311 695 (4) mentioned in the description of the present application. Although (4) contained a reference to "colorants" on the lines of that found in (2), there was no mention of pigments in either document. The Appellant had also carried out a search through the patent literature between 1967 and 1987 for water-in-oil emulsions used in make-up and cosmetics which related to the use of colorants and pigments. Of the 41 documents found, only 8 related to coated or treated pigment; none referred to high pigment loading.

It was stated that the Appellant had carried out comparative tests using various emulsifiers with the aim of demonstrating the superior stability of emulsions in accordance with the present application. It had been intended to exhibit these samples at the oral proceedings. Owing to vagaries on the part of the

courier service entrusted with the delivery of the samples to the representative, the said samples had not arrived in time. An affidavit of Miss Julie Blackburn, the Appellant's Senior Patent Counsel was offered in order to explain the circumstances, together with photographs of the samples.

V. The Appellant sought to file at the oral proceedings six further auxiliary requests. Since the amendments proposed did not appear to be related to objections raised during the proceedings the Board decided not to admit the said requests.

VI. The Appellant requested the grant of a patent based on Claims 1 to 7 received on 30 April 1992 (main request) and on the basis of Claims 1 to 3 filed by fax on 17 February 1993 with the Statement of Grounds together with Claims 4 to 7 as filed on 30 April 1992 (auxiliary request).

Reasons for the Decision

1. The appeal is admissible.

2. The amendments to Claim 1 effected during examination satisfy the requirements of Article 123(2) EPC.

2.1 Claim 1 of the main request is supported by the originally filed Claims 1, 3, 7 and 8 together with the description on (page 2, lines 51 to 52; pages 5, lines 31 to 32; page 12, lines 29 to 33 and page 11, lines 15 to 21 as originally filed). Claims 2, 3 and 4 of the main request find support in originally filed Claims 4, 5 and 6 as originally filed. Claim 5 is based on the worked examples. Claim 6 is supported by the printed description on page 3, lines 51 to 57 and

page 5, lines 5 to 8 (originally page 7, lines 1 to 11 and page 11, lines 9 to 14 respectively) Claim 7 has basis on page 5, lines 28 to 32 (originally page 12, lines 21 to 29).

2.2 According to the auxiliary request Claims 1 and 2 relate to essentially the same subject-matter as Claims 1 and 2 of the main request with editorial amendments. Claims 4 to 7 are the same as those of the main request. The Board notes that Claim 3 is redundant having the same wording as Claim 5. This is not important having regard to the later findings.

3. The present application relates to a cosmetic make-up composition which is a water-in-oil emulsion having an oily phase formed from specific organopolysiloxanes.

3.1 In the opinion of the Board, document (1), an earlier application by the Appellant, constitutes the closest state of the art; this was not disputed by the Appellant at the oral proceedings (see IV above). In accordance with (1), high loadings of pigment, i.e. up to 60% by weight of the composition according to Claim 2, are dispersed in a single organopolysiloxane phase. The dispersed pigments have surfaces coated with a polysiloxane, which is chemically bonded thereto. As is apparent from the description of (1), the compositions are essentially anhydrous.

3.2 In relation to (1), the problem to be solved can be seen in providing an alternative make-up composition also having high pigment loadings. The problem is solved by the water-in-oil emulsions defined in Claim 1 of the application in suit. Having regard to the examples which feature in the application and to the declarations of Ms Tietjen, the Board is satisfied that the problem had indeed been solved.

4. The Board is satisfied that neither of the documents (1) and (2) referred to by the Examining Division nor documents (3) and (4) mentioned in the application disclose all the features of Claim 1 of the present application. In any event, novelty has not been contested.

5. It remains to consider whether or not Claim 1 of the main request satisfies the requirements of Articles 56 EPC in respect of inventive step.

5.1 The present application differs from the disclosure of document (1) insofar as it relates to an oil-in-water emulsion whilst (1), as indicated discloses a one-phase oily composition. However, it is to be noted that one of the alternatives of the dimethylsiloxane mentioned in Claim 1 of (1) is the same as the first formula in Claim 1 of the present application and which appears as formula (1) on page 2, lines 46 (printed version). Furthermore, the cyclomethicone and the organopolysiloxane formula appearing in Claim 2 of (1) also feature as alternatives in Claim 1 of the present application.

5.1.1 The organopolysiloxane coated pigments mentioned on pages 2 and 3 of the present application, i.e. Formulae (3), (4) and (5) correspond essentially to those set out on pages 7 and 8 of document (1). In other words, the oily phase of the compositions of the present application is substantially the same as the oily cosmetic composition disclosed in (1).

5.1.2 However, as pointed out by the Appellant at the oral proceedings, the passages on page 1 (line 30), page 6 (lines 22 to 25), pages 8 (lines 22 to 25) and page 12 (lines 14 and 19) of document (1) emphasise the fact that it relates to a one-phase, anhydrous composition

containing a pigment having a hydrophobic coating. Accordingly, there is no hint in (1), taken alone, which might lead the skilled person to a water-in-oil emulsion.

5.2 Document (2), which would have been known to one skilled in the cosmetic field, relates to a water-in-oil emulsion comprising 1 to 70% by weight of a polar liquid, especially water, as the dispersed phase. The continuous phase is either a dimethylsiloxane fluid or a mixture thereof with a paraffinic hydrocarbon. Dispersion is achieved using as surfactant a mixture of a polydiorganosiloxane/polyoxyalkylene copolymer and a none-silicone water-in-oil surfactant having HLB of 2 to 10. It is apparent from column 5 of (2) that the siloxane/oxyalkylene copolymers used therein correspond to those referred to on page 40 of the present application. The silicone-free surfactant mentioned in Claim 1 of the present application also appears analogous to that mentioned Claim 1 of (2). Thus, the compositions of document (2) correspond to those of the present application without the pigment.

5.3 Apart from the vague mention of a "colorant" in column 8, lines 59 to 60 of (2), there is no suggestion of adding a pigment. There is also no hint in either of documents (3) and (4) that pigments might be added to water-in-oil emulsions.

5.3.1 It is, however, to be noted that document (2) (column 2, lines 18 to 25) recognises the desirable properties of water-in-oil emulsions when applied to the human skin. These involve a comfortable dry feeling for the user. The advantageous properties of such emulsions are also acknowledged in document (3) (column 2, lines 30 to 36) and in the opening paragraphs of document (4).

5.3.2 It is also apparent from the existence of over 40 citations covering the period 1967 to 1987, referred to by the Appellant at the oral proceedings, that not only were the desirable properties of water-in-oil emulsions known to those skilled in the art but much research effort had been devoted to them.

5.3.3 According to column 8, lines 60 ff of (2), the oil-in-water emulsions are preferably prepared by adding the aqueous phase to the oily phase comprising a mixture of organspolysiloxane and surfactants. Such a technique is applied in Examples 3 to 6 to (2). A corresponding method for preparing the emulsions is disclosed in documents (3) (column 3, lines 61 ff) and is followed in the examples (cf. column 12, lines 27 to 36). An essentially similar method in disclosed in document (4) at column 7, lines 49 to 63. Accordingly, the skilled person, having knowledge of the compositions of (1) would have been led in an obvious manner by the teaching of documents (2), (3) and (4) to the method of preparing the emulsions of the present application described on page 5, lines 40 to 44 (originally page 13, lines 11 to 19) and thus to the emulsions per se, which form the subject-matter of Claim 1 of the main request.

5.3.4 Up to the publication of document (1), the skilled person would have had no incentive to add a pigment to the oily layer of such a water-in-oil emulsion nor would he have any indication of techniques necessary to disperse such a pigment. However, once document (1) had been published, both the incentive to add a pigment and the technique necessary to do so would have been revealed; a pigment with a chemically bound organopolysiloxane coating would have been expected to disperse in the oily polysiloxane phase.

5.3.5 The fact that (1) mentions only additives to the aqueous phase (e.g. column 3 and Claim 2) does not imply that it is impossible to add anything to the oily phase. It is also to be noted that in column 3, lines 8 to 12 of (2), a warning is given about additives to the aqueous phase which might destroy its stability. In any event no such warning is applied to the oily phase and it is stated in column 2, lines 4 to 7 and lines 26 to 29 of (1) that the emulsions may be diluted with paraffinic hydrocarbons which accordingly must be miscible with the oily polysiloxane phase. The Board can thus see no prejudice against adding anything to the oily phase.

5.4 As indicated in point 2.2 above, Claim 1 of the auxiliary request relates to essentially the same subject-matter as Claim 1 of the main request. For the reasons set out above, it must also lack the required inventive step.

5.5 The Appellant had hoped to demonstrate that the emulsions according to the present application exhibited an unexpected stability. However, the samples failed to arrive (cf. IV above) and the Board was not able to glean any useful information from the photocopies of photographs supplied. The Board notes that the refusal of the present application was dated 7 October 1992. Furthermore, the summons to the oral proceedings which the Appellant had requested was dispatched in October 1994. The Appellant thus had ample time to carry out comparative experiments. The Board was not notified that such experiments had been carried out nor did the Appellant request any extension of the proceedings. Accordingly, this evidence had to be disregarded.

6. The appeal must accordingly be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Martorana P. A. M. Lançon

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