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**Datasheet for the decision
of 24 January 2012**

Case Number: T 0509/08 - 3.3.07

Application Number: 01943313.5

Publication Number: 1280502

IPC: A61K 7/32

Language of the proceedings: EN

Title of invention:
Cosmetic compositions

Patent Proprietors:
Unilever PLC
Unilever N.V.

Opponent:
HENKEL AG & CO. KGAA

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - all requests (no) "

Decisions cited:
-

Catchword:
-



Case Number: T 0509/08 - 3.3.07

DECISION
of the Technical Board of Appeal 3.3.07
of 24 January 2012

Appellants:
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and

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 10 January 2008
revoking European patent No. 1280502 pursuant
to Article 101(3) (b) EPC.**

Composition of the Board:

Chairman: J. Riolo
Members: D. Semino
M-B. Tardo-Dino

Summary of Facts and Submissions

I. The appeal of the patent proprietors (appellants) lies against the decision of the opposition division announced at the oral proceedings on 13 December 2007 to revoke European Patent 1 280 502. The granted patent comprised 18 claims, claim 1 reading as follows:

"1. An antiperspirant or deodorant cosmetic composition in the form of a stick containing an antiperspirant or deodorant active comprising a continuous hydrophobic phase containing a volatile silicone oil a non-volatile hydrophobic oil and a wax structurant, a disperse aqueous phase and an emulsifier characterised in that the continuous phase comprises from 10 to 35% volatile silicone oil, and from 5 to 15% non-volatile hydrophobic oil, the disperse phase comprises from 40 to 75%, the antiperspirant or deodorant active comprises from 0.5 to 35%, the wax structurant comprises from 7 to 25%, the emulsifier comprises from 0.1 to 10%, and the composition preferably contains up to 5% insoluble particulate materials, %s being by weight based on the composition."

II. A notice of opposition was filed against the granted patent requesting revocation of the patent in its entirety on the grounds of lack of novelty and lack of inventive step, in accordance with Article 100(a) EPC.

III. The decision of the opposition division was based on the claims as granted as main request and on a single auxiliary request. In claim 1 according to the auxiliary request it had been specified that the composition "contains C₂-C₆ dihydric or polyhydric

alcohol in an amount of from none up to half the weight of water".

The decision was supported inter alia by the following documents:

- D1: EP-A-0 295 071
- D6: EP-A-0 281 288
- D7: WO-A-98/17238
- D8: US-A-4 725 431.

IV. The decision of the opposition division, as far as relevant to the present decision, can be summarised as follows:

- (a) The composition of claim 1 as granted was anticipated by example 1 of document D1.
- (b) The composition of claim 1 according to the auxiliary request was novel in view of the added condition on the maximum amount of dihydric or polyhydric alcohol; however, it was not inventive with respect to the disclosure of any of D1, D6, D7 or D8, taken as the closest state of the art. In particular the composition of claim 1 according to the auxiliary request differed from example 36 of D7 only in the amount of volatile silicone oil (10 to 35% in claim 1 and 7.5% in example 36). Since no evidence was available that any improvement could be obtained by means of that difference, the problem to be solved was that of providing further stick compositions having good sensory attributes. According to the teaching of D7 itself, it was known to use higher quantities

of volatile silicone oil, so that an inventive step could not be acknowledged.

V. The patent proprietors (appellants) appealed that decision. With the statement setting out the grounds of appeal they maintained the patent as granted as main request and submitted seven sets of claims as auxiliary requests 1 to 7. Claim 1 according to auxiliary request 2 read as follows (amendments with respect to claim 1 as granted are in bold, deletions in strikethrough):

"1. An antiperspirant or deodorant cosmetic composition in the form of a stick containing an antiperspirant or deodorant active comprising a continuous hydrophobic phase containing a volatile silicone oil, a non-volatile hydrophobic oil and a wax structurant, a disperse aqueous phase and an emulsifier characterised in that the continuous phase comprises from 10 to 35% volatile silicone oil, and from ~~5~~ **8** to 15% non-volatile hydrophobic oil **in a weight ratio of volatile silicone oil to non-volatile hydrophobic oil of $\geq 5:4$ to $\leq 3:1$** , the disperse phase comprises from 40 to 75%, **and contains from 20 to 40% by weight of water**, the antiperspirant or deodorant active comprises from ~~0.5 to 35%~~ **10 to 30%**, the wax structurant comprises from 7 to 25%, the emulsifier comprises from 0.1 to 10%, and the composition preferably contains up to 5% insoluble particulate materials, %s being by weight based on the composition."

- VI. In the reply to the statement setting out the grounds of appeal the opponent (respondent) maintained the objections of lack of novelty and lack of inventive step.
- VII. In a communication sent in preparation to oral proceedings the Board summarised the objections of the respondent and raised some issues under Articles 84 and 123(2) EPC for the auxiliary requests.
- VIII. In reaction to that communication the appellants withdrew by letter of 20 December 2011 the main request and auxiliary requests 1, 3, 4 and 6. In addition they filed an amended version of auxiliary requests 5 and 7. Claim 1 according to amended auxiliary requests 5 and 7 read as follows (amendments with respect to claim 1 as granted are in bold, deletions in strikethrough):

Auxiliary request 5

"1. An antiperspirant or deodorant cosmetic composition in the form of a stick containing an antiperspirant or deodorant active comprising a continuous hydrophobic phase containing a volatile silicone oil a non-volatile hydrophobic oil and a wax structurant, a disperse aqueous phase and an emulsifier characterised in that the continuous phase comprises from 10 to 35% volatile silicone oil, and from 5 to 15% non-volatile hydrophobic oil, **in a weight ratio of volatile silicone oil to non-volatile hydrophobic oil of $\geq 5:4$ to $\leq 3:1$** , the disperse phase comprises from 40 to 75% **in which 40 to 75% of the phase is water**, the antiperspirant or deodorant active comprises from ~~0.5 to 35%~~ **10 to 30%**, the wax structurant comprises from 7 to 25%, **the**

composition contains not more than 2% of a C₁₂ to C₂₄ saturated linear aliphatic alcohol, the emulsifier comprises from 0.1 to 10%, and the composition preferably contains up to 5% insoluble particulate materials, %s being by weight based on the composition **unless otherwise stated."**

Auxiliary request 7

"1. An antiperspirant or deodorant cosmetic composition in the form of a stick containing an antiperspirant or deodorant active comprising a continuous hydrophobic phase containing a volatile silicone oil a non-volatile hydrophobic oil and a wax structurant, a disperse aqueous phase and an emulsifier characterised in that the continuous phase comprises from 10 to 35% volatile silicone oil, and from 5 to 15% non-volatile hydrophobic oil **which comprises liquid aromatic esters, in a weight ratio of volatile silicone oil to non-volatile hydrophobic oil of $\geq 5:4$ to $\leq 3:1$, the weight ratio of volatile silicone oil to non-volatile oil being selected in the range of from $\geq 5:4$ to $\leq 3:1$** , the disperse phase comprises from 40 to 75% **of which phase 40 to 75% is water**, the antiperspirant or deodorant active comprises from 0.5 to 35%, the wax structurant comprises from 7 to 25%, the emulsifier comprises from 0.1 to 10%, and the composition preferably contains up to 5% insoluble particulate materials, %s being by weight based on the composition **except where otherwise stated."**

IX. Oral proceedings were held on 24 January 2012.

X. The arguments of the appellants (patent proprietors), as far as relevant to the present decision, can be summarised as follows:

Inventive step

- (a) Document D7, taken as the closest prior art, disclosed compositions including a volatile silicone oil only in two out of forty examples and taught to include at most a very small quantity of volatile oil. Even example 36 of D7 differed from the claimed composition in several features, including in particular the weight ratio of volatile silicone oil to non-volatile hydrophobic oil (1:1 in example 36, greater than 5:4 to smaller than 3:1 in claim 1).

- (b) The tests in the patent, in particular those in tables 1 and 5 showed that the choice of that ratio in the specific range allowed to reduce the visible deposit while obtaining good sensory properties. In that context it was not relevant that the amount of antiperspirant active in some examples was higher than according to the claim, since the examples were able to show that even a higher amount of antiperspirant could be masked by the inventive composition. Even if it had to be acknowledged that the comparative tests were not a reproduction of D7, they clearly showed the presence of an effect related to the choice of the weight ratio. The problem to be solved was that of providing a stick composition with reduced visible

deposit with respect to the composition of D7 while maintaining good sensory properties.

- (c) There was no hint in the prior art to increase the ratio of volatile silicone oil to non-volatile hydrophobic oil in order to solve that problem; in particular D7 taught against an increase in the quantity of volatile silicone oil. Even if the problem were posed as that of finding an alternative to the composition of example 36 of D7, there was no indication in the prior art to choose the specific range for the critical ratio. In addition the other distinguishing features rendered the claimed composition even more remote from the one of D7. Those arguments were valid for claim 1 according to auxiliary request 2 filed with the grounds of appeal and also according to auxiliary requests 5 and 7 filed with letter of 20 December 2011.

XI. The arguments of the respondent (opponent), as far as relevant to the present decision, can be summarised as follows:

Inventive step

- (a) Document D7, taken as the closest state of the art, disclosed stick compositions which were developed for the same scope as those in the patent in suit. In particular, the composition of example 36 of D7 contained all components of the claimed compositions and differed only marginally in some of the quantities of the individual ingredients. That composition could not be considered as an

isolated example of D7 as far as the presence of a volatile silicone oil was concerned, since also in the general part of the description of D7 volatile silicone oils were indicated as appropriate ingredients for the sticks disclosed therein.

- (b) It was even acknowledged by the appellants that most of the slight differences in the quantities of the components had no effect on the properties of the composition. In addition, no effect could be ascribed to the range for the weight ratio of volatile silicone oil to non-volatile hydrophobic oil. Most of the tests in the tables of the patent were not relevant, since they did not fall under the claimed composition due to an excessive quantity of antiperspirant active. In any case those tests did not show any advantage with respect to D7, since they compared values of the weight ratio within the range (greater than 5:4 to smaller than 3:1) to values higher than 3:1, while the weight ratio in example 36 of D7 was 1:1, therefore at the other end of the range. For those reasons, no effect could be acknowledged and the problem could be seen only in the provision of an alternative stick composition.
- (c) In view of the posed problem, it could not be considered as inventive to change minimally the quantities of the ingredients of the composition within ranges which were known from D7 itself. Those reasons applied to claim 1 according to auxiliary request 2 filed with the statements of grounds and also to claim 1 according to auxiliary requests 5 and 7 filed with letter of 20 December

2011, since the additional features present in those requests did not add anything which was not already known from D7 and no effect could be ascribed to their presence.

XII. The appellants (patent proprietors) requested that the decision under appeal be set aside and the patent be maintained on the basis of the set of claims of auxiliary request 2 as submitted with the grounds of appeal as their main request, or, alternatively, of the set of claims of auxiliary requests 5 or 7 as submitted with the letter dated 20 December 2011, respectively as auxiliary requests 1 and 2.

XIII. The respondent (opponent) requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

Main Request (corresponding to auxiliary request 2 submitted with the grounds of appeal)

2. *Inventive step*

2.1 Document D7 discloses in the context of sticks which do not have excessive drag and greasiness and provide good glide (page 1, third and fourth paragraphs), antiperspirant and/or deodorant sticks comprising a fat phase containing an oil component and a wax component, and an aqueous phase containing 30-85% by weight of water, an antiperspirant and/or deodorant, a water-in-

oil emulsifier and a stabiliser (claim 1). The oil component may include several substances (from the paragraph bridging pages 10 and 11 to the last paragraph of page 12), including as preferred ingredients cyclic or linear silicone oils, such as cyclomethicone (paragraph bridging pages 11 and 12 and first paragraph of page 12).

2.2 Example 36 of D7 discloses (page 37, lines 1 to 11) a deodorant and antiperspirant stick containing 0.9% by weight of PEG-45/dodecyl glycol copolymer and 1.8% by weight of polyglyceryl-3-disosterate (therefore a total of 2.7% by weight of emulsifiers), 7.5% by weight of cetylstearylisononanoate (a non-volatile hydrophobic oil), 14.5% by weight of C₂₀₋₄₀-alkylstearate (a wax structurant), 7.5% by weight of cyclomethicone (a volatile silicone oil), 1.8% by weight dipropylene glycol, 20% by weight of aluminiumchlorhydrate (an antiperspirant and deodorant active), minimal quantities of perfume and preservative and the rest of water (ca. 46% by weight). The disperse phase comprises water, aluminiumchlorhydrate and dipropylene glycol and amounts therefore to 67.8% by weight of the composition, wherein 67.8% (46/67.8) by weight of the disperse phase is water. The ratio of volatile silicone oil to non-volatile hydrophobic oil is 1:1 (with 7.5% by weight of volatile silicone oil and 7.5% by weight of non-volatile hydrophobic oil).

2.3 D7 concerns therefore the same kind of sticks as the patent in suit, aims at similar objectives and discloses in particular a composition which contains all the ingredients of the stick according to claim 1 of the main request in quantities which either fall in

the ranges specified in the claim or are only marginally different. For these reasons it is chosen as the closest state of the art. The fact that example 36 is one of the only two examples of D7 which include a volatile silicone oil, as pointed out by the appellants, is irrelevant, since example 36 is fully representative of the sticks of D7, as confirmed by the general part of the description, in which the presence of volatile silicone oils in the oil component is disclosed as a preferred feature of the sticks of D7 (see point 2.1, above).

2.4 The composition according to claim 1 of the main request differs from the stick of example 36 of D7 in that it has a higher quantity of volatile silicone oil (10 to 35% as opposed to 7.5% in example 36) and of non-volatile hydrophobic oil (8 to 15% as opposed to 7.5% in example 36), a higher weight ratio of volatile silicone oil to non-volatile hydrophobic oil ($\geq 5:4$ to $\leq 3:1$ as opposed to 1:1 in example 36) and a lower quantity of water (20 to 40% as opposed to 46% in example 36).

2.5 According to the patent in suit, the problem addressed by the invention is "to provide an emulsion stick formulated to exhibit a desirable combination of sensory attributes, stick integrity and reduction of visible deposit" (paragraph [0012]). In view of the evidence available on file it needs to be determined whether any improvement in the desired properties has been achieved with respect to the stick of example 36 of D7.

- 2.6 The appellants have not claimed any advantage due to the slight increase in the quantities of volatile silicone oil and non-volatile hydrophobic oil and to the decrease in the quantity of water, but supported the view that by choosing a ratio of volatile silicone oil to non-volatile hydrophobic oil within the range of claim 1 ($\geq 5:4$ to $\leq 3:1$) "it is possible to combine the benefits of reducing visible deposits, and simultaneously avoiding excess drag and greasiness for the emulsion" (paragraph [0048] in the patent in suit).
- 2.7 The Board cannot agree that the evidence on file allows to show advantages related to the claimed composition with the specific choice of the ratio of volatile silicone oil to non-volatile hydrophobic oil with respect to the stick of example 36 of D7.
- 2.7.1 Firstly, no reproduction of the examples of D7, in particular of example 36, has been accomplished, so that no direct comparison between a stick according to the closest prior art and a stick according to the patent in suit is available.
- 2.7.2 Secondly, the tests and comparative tests available in the patent which are meant to show the effects related to the choice of the ratio of volatile silicone oil to non-volatile hydrophobic oil (in particular in tables 1 and 5 as cited by the appellants) compare sticks with values of the ratio within the range of claim 1 with sticks having values of the ratio well above the upper limit (9.1:1 in comparative example C1 of table 1 and 4.2:1 in comparative example 5.A of table 5) of that range. Those tests are able, if at all, to show the effects related to a decrease in the value of the ratio

of volatile silicone oil to non-volatile hydrophobic oil, but are of no relevance in understanding whether an increase from 1:1 to 5:4 allows to obtain any improvement. Since those tests are irrelevant, there is no need to discuss whether the quantity of antiperspirant active in the sticks, which according to the respondent is outside the range in the claim (10 to 30% by weight), plays any role in the results.

2.7.3 Finally, the value of the ratio of volatile silicone oil to non-volatile hydrophobic oil in example 36 of D7 even falls within the preferred range according to the patent in suit (paragraph [0048]), where it is specified that "Preferably, the volatile silicone oil is present in a weight ratio to the non-volatile oil of at least 1:1 and especially at least 5:4" and no evidence is provided of advantages related to the choice of the most preferred lower limit of the range (5:4) as opposed to the preferred lower limit (1:1).

2.8 For those reasons, it can only be concluded that the evidence on file does not allow to acknowledge any improvement for the claimed composition with respect to the stick of example 36 of D7 and that both the choice of the range for the ratio of volatile silicone oil to non-volatile hydrophobic oil according to the claim and the selections of slightly different quantities for the volatile silicone oil, the non-volatile hydrophobic oil and water are arbitrary choices with respect to the values of example 36 of D7.

2.9 The problem solved is therefore that of providing further deodorant and antiperspirant stick compositions starting from the one of example 36 of D7.

2.10 It is within the disclosure of D7 to choose the amount of oil components and water within broad ranges, while including in the oil components both volatile silicone oils and non-volatile hydrophobic oils. Indeed, within the list of preferred oil components (last but one full paragraph on page 12), both volatile silicone oils (such as cyclomethicone) and non-volatile hydrophobic oils (such as cetylstearylisononanoate and C₁₂-C₁₅-alkylbenzoate) are mentioned and the preferred quantity of oil components in the stick is set at 0.5 to 80% by weight, most preferred at 1 to 20% by weight (last paragraph of page 12). The appropriate quantity of water in the stick is indicated at 30 to 85% by weight in D7 (claim 1).

2.11 It would be therefore within the normal activity of the person skilled in the art aiming at finding further stick compositions starting from the one of example 36 of D7 to modify slightly the quantities of the components, while still remaining with the ranges indicated in D7 itself, so as to arrive at a stick according to claim 1 of the main request. For those reasons, the arbitrary choice of slightly modified quantities of the components with respect to the composition of example 36 of D7 cannot provide the required inventive step.

2.12 The Board concludes therefore that the composition of claim 1 according to the main request does not involve an inventive step.

Auxiliary request 1 (corresponding to auxiliary request 5 submitted with letter of 20 December 2011)

3. *Inventive step*

3.1 Claim 1 according to auxiliary request 1 differs from claim 1 of the main request in that the range for the quantity of non-volatile hydrophobic oil in the composition is broader (5 to 15% by weight instead of 8 to 15% by weight), the condition on the quantity of water is defined with respect to the disperse phase (40 to 75% by weight of the disperse phase) instead of the total composition (20 to 40% by weight of the total composition) and it is further specified that "the composition contains not more than 2% of a C₁₂ to C₂₄ saturated linear aliphatic alcohol".

3.2 The stick of example 36 of D7 (see point 2.2, above) has 7.5% by weight non-volatile hydrophobic oil, a quantity of water corresponding to 67.8% by weight of the disperse phase and does not contain any C₁₂ to C₂₄ saturated linear aliphatic alcohol.

3.3 The composition according to claim 1 of auxiliary request 1 differs from the stick of example 36 of D7 in that it has a higher quantity of volatile silicone oil (10 to 35% as opposed to 7.5% in example 36) and a higher weight ratio of volatile silicone oil to non-volatile hydrophobic oil ($\geq 5:4$ to $\leq 3:1$ as opposed to 1:1 in example 36).

3.4 By following the same arguments as valid for claim 1 of the main request (points 2.5 to 2.11, above), it can be

concluded that the composition of claim 1 according to auxiliary request 1 does not involve an inventive step.

Auxiliary request 2 (corresponding to auxiliary request 7 submitted with letter of 20 December 2011)

4. *Inventive step*

4.1 Claim 1 according to auxiliary request 2 differs from claim 1 of the main request in that the range for the quantity of non-volatile hydrophobic oil in the composition is broader (5 to 15% by weight instead of 8 to 15% by weight), the condition on the quantity of water is defined with respect to the disperse phase (40 to 75% by weight of the disperse phase) instead of the total composition (20 to 40% by weight of the total composition), the range for the quantity of antiperspirant or deodorant active is broader (0.5 to 35% by weight instead of 10 to 30% by weight) and it is further specified that the non-volatile hydrophobic oil "comprises liquid aromatic esters".

4.2 In view of the already undertaken analysis of example 36 of D7 (see point 2.2, above), the composition according to claim 1 of auxiliary request 2 differs from the stick of example 36 of D7 in that it has a higher quantity of volatile silicone oil (10 to 35% as opposed to 7.5% in example 36) and a higher weight ratio of volatile silicone oil to non-volatile hydrophobic oil ($\geq 5:4$ to $\leq 3:1$ as opposed to 1:1 in example 36) and in that the hydrophobic oil comprises liquid aromatic esters.

- 4.3 No effect or advantage has been claimed or shown by the appellants in relation to the presence of liquid aromatic esters in the hydrophobic oil component of the stick.
- 4.4 In view of the absence of an effect for any of the distinguishing features taken alone or in combination (see also points 2.6 to 2.8, above), also for claim 1 according to auxiliary request 2 the problem solved is that of providing further deodorant and antiperspirant stick compositions starting from the one of example 36 of D7.
- 4.5 Both the addition of specific hydrophobic oils which are listed among the preferred ones in D7 itself (see the presence of C₁₂-C₁₅-alkylbenzoate in the list of preferred oils on page 12 of D7, last but one full paragraph) and the slight and arbitrary modifications of the quantities of some components (see also points 2.10 and 2.11, above) fall also in this case within the normal activity of the person skilled in the art aiming at finding further stick compositions.
- 4.6 Therefore also the composition of claim 1 according to auxiliary request 2 does not involve an inventive step.
5. Since claim 1 according to all the requests on file does not involve an inventive step, there is no need for the Board to decide on any other point.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar

The Chairman

S. Fabiani

J. Riolo