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**Datasheet for the decision  
of 1 September 2011**

**Case Number:** T 2436/09 - 3.3.10

**Application Number:** 02747614.2

**Publication Number:** 1416911

**IPC:** A61Q 17/00

**Language of the proceedings:** EN

**Title of invention:**  
Personal Care Compositions

**Patentee:**  
The Boots Company PLC

**Opponent:**  
BEIERSDORF AG

**Headword:**  
Sunscreen compositions/BOOTS

**Relevant legal provisions:**  
EPC Art. 56

**Relevant legal provisions (EPC 1973):**  
-

**Keyword:**  
"Inventive step (no) - no deterrent in closest prior art"

**Decisions cited:**  
T 0249/88, T 0939/92, T 1053/93

**Catchword:**  
-



Case Number: T 2436/09 - 3.3.10

**DECISION**  
of the Technical Board of Appeal 3.3.10  
of 1 September 2011

**Appellant:** BEIERSDORF AG  
(Opponent) Unnastrasse 48  
D-20253 Hamburg (DE)

**Representative:** -

**Respondent:** The Boots Company PLC  
(Patent Proprietor) Nottingham NG2 3AA (GB)

**Representative:** Jones, Stephen Anthony  
AdamsonJones  
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Nottingham NG1 1GF (GB)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 11 December 2009  
rejecting the opposition filed against European  
patent No. 1416911 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** C. Komenda  
**Members:** J. Mercey  
J.-P. Seitz

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition against European patent No. 1 416 911. Claim 1 of the granted patent read as follows:

"A personal care composition comprising

a) from 4 to 12 parts by weight of a dibenzoylmethane sunscreensing compound;

b) from 3 to 9 parts by weight of a cyano-diphenyl acrylate sunscreensing compound;

c) from 2.5 to 7.5 parts by weight of a salicylate sunscreensing compound; and

d) from 0.5 to 1.5 parts by weight of a triazinic sunscreensing compound."

II. Notice of Opposition had been filed by the Appellant requesting revocation of the patent in its entirety on the grounds of *inter alia* lack of inventive step (Article 100(a) EPC). *Inter alia* the following documents were submitted in opposition proceedings:

(1) EP-A-787 483,

(2) M. Fukuda, M. Naganuma, M. Iwai, Y. Nakayama  
"Protection to UVA-induced skin reactions by ultraviolet absorbers", J. Soc. Cosmet. Chem. Japan, 1988, Vol. 22, No. 1, English translation, and

(6) EP-A-904 776.

III. The Opposition Division held that the invention involved an inventive step, since starting from a sunscreen composition of document (6) as the closest

prior art, no document suggested that the sun protection factor (SPF) could be increased by adding a salicylate sunscreen in a particular weight ratio. Even if the sunscreen compositions of document (1) were to be considered to represent the closest prior art, then the claimed subject-matter was still inventive, since there was no motivation for the skilled person to increase the amount of the UVA filter in preference to any one of the other sunscreens described therein, in particular in view of its instability.

IV. The Appellant submitted that the subject-matter of the present invention was not inventive starting from document (1) as closest prior art. Document (1) was closer than document (6), since the formulations of Examples 3 and 5 of document (1) had more technical features in common with the invention than the formulations of document (6), which lacked a salicylate sunscreen. Document (1) also related to the field of sunscreen compositions, said compositions thus inherently possessing an SPF. Starting from document (1), even if the problem to be solved by the patent in suit were to be regarded as the provision of sunscreen compositions with an improved SPF, the claimed solution was obvious, since it belonged to the common general knowledge of the skilled person that an increase in the SPF of a sunscreen composition could be achieved by increasing the concentration of the sunscreen compounds therein, including the dibenzoylmethane sunscreen. In addition, document (2) specifically taught that by increasing the amount of the dibenzoylmethane UVA sunscreen Parsol A from 2 to 4 wt.%, increased UVA protection in guinea pigs was achieved. Indeed 4 wt.%

Parsol A was shown to be effective in the prevention of solar dermatitis and solar urticaria in humans.

V. The Respondent (Proprietor of the Patent) submitted that document (6) was the closest prior art, since the technical problem to be solved by said document was closer to that of the present invention, namely to enhance the SPF photoprotection of human skin and/or hair, whereas document (1) was concerned with providing photostable compositions for protecting the human skin against damage caused by light. Starting however from document (1), the problem to be solved by the patent in suit was the provision of sunscreen compositions with an improved SPF. No experimental evidence was available showing that this problem had been solved, but it was common general knowledge that increasing the concentrations of sunscreens in a composition generally increased the SPF of the resulting composition. The solution was inventive, since the skilled person had no motivation to increase the level of dibenzoylmethane sunscreen in preference to any of the other sunscreens contained therein. Indeed document (1) discouraged the skilled person from increasing the level of dibenzoylmethane sunscreens in view of their instability, teaching particularly preferred amounts of UVA screens of only 0.5 to 3 wt.% and limits being imposed on the total amount of UVA and UVB screens in view of the stability of the compositions. Furthermore, since the SPF primarily expressed a protective effect against UVB, when faced with the problem of improving the SPF, the skilled person would not have increased the amount of the dibenzoylmethane sunscreen, since this was a UVA screen, but would rather have increased the amount of one of the UVB screens. In addition, the

claimed combination of sunscreens exhibited an unexpected synergistic effect.

VI. The Appellant requested that the decision under appeal be set aside and the patent be revoked.

The Respondent requested that the appeal be dismissed.

VII. At the end of the oral proceedings held on 1 September 2011, the decision of the Board was announced.

### **Reasons for the Decision**

1. The appeal is admissible.

2. *Inventive step*

2.1 According to the established jurisprudence of the Boards of Appeal it is necessary, in order to assess inventive step, to establish the closest state of the art, to determine in the light thereof the technical problem which the invention addresses and successfully solves, and to examine the obviousness of the claimed solution to this problem in view of the state of the art. This "problem-solution approach" ensures assessing inventive step on an objective basis and avoids an *ex post facto* analysis. The closest prior art is normally a prior art document disclosing subject-matter conceived for the same purpose as the claimed invention and having the most relevant technical features in common.

2.2 The patent in suit is directed to sunscreen compositions comprising four different classes of sunscreens in particular amounts. Similar compositions already belong to the state of the art in that document (1) discloses a composition (see formulation composition of Example 5 on page 4) comprising 2 wt.% Parsol 1789, namely a dibenzoylmethane sunscreen a) according to the patent in suit, 4 wt.% Neo Heliopan 303, namely a cyano-diphenyl acrylate sunscreen b) according to the patent in suit, 4 wt.% Neo Heliopan HMS, namely a salicylate sunscreen c) according to the patent in suit, and 1.5 wt.% Uvinul T 150, namely a triazinic sunscreen d) according to the patent in suit.

2.2.1 The Respondent argued that not document (1), but rather document (6), was the closest state of the art, since document (6) specifically addressed (cf. page 2, line 2) the technical problem which underlied the patent in suit (cf. paragraph [0002] thereof), namely to enhance the SPF photoprotection of human skin and/or hair, whereas document (1) was primarily concerned with providing photostable sunscreen compositions.

However, the sunscreen formulation composition of Example 5 disclosed in document (1) has more technical features in common than the compositions of document (6), since the former comprises all four sunscreens a) to d) according to claim 1 of the patent in suit, compounds b) to d) even in the required amounts, whereas the compositions of document (6) do not contain component (c) at all. Document (1) relates to photostable cosmetic compositions for protecting the human skin against damage caused by light, such that it

is clearly directed to subject-matter conceived for the same purpose as the claimed invention. Improvement of the SPF may indeed not be specifically mentioned therein, but by their very nature, sunscreen compositions necessarily implicate sun protection, and hence a measurable SPF, such that there is clearly a link between the technical problem to be solved by the patent in suit and document (1), such that this document cannot thus be discarded for this reason alone. The Board concludes therefore that document (6) represents prior art which is further away from the patent in suit than document (1).

2.2.2 Thus, the Board considers, in agreement with the Appellant, that in the present case the formulation composition of Example 5 of document (1) represents the closest state of the art and, hence, takes it as the starting point when assessing inventive step.

2.3 In view of this state of the art, the Respondent submitted that the problem underlying the patent in suit was the provision of sunscreen compositions with an improved SPF.

2.4 As the solution to this problem, the patent in suit proposes a sunscreen composition as defined in claim 1 which is characterised by the concentration of dibenzoylmethane suncreening compound of 4 to 12 parts by weight.

2.5 In view of the presence in the claimed sunscreen composition of a greater concentration of dibenzoylmethane sunscreening compound a) *vis-à-vis* the formulation composition of Example 5 of document (1),



it is credible that the problem defined above is solved by the claimed composition, the Board holding that the Respondent's submission that it was generally the case that the SPF of a sunscreen composition is increased by increasing the concentration of sunscreensing compounds therein, was plausible. The Appellant also did not contest the fact that the problem was solved.

2.6 Finally, it remains to be decided whether or not the proposed solution to the problem underlying the patent in suit involves an inventive step in view of the state of the art.

2.6.1 Document (1) specifically teaches that the sunscreen compositions disclosed therein may contain from 0.5 to 10 wt.% of the dibenzoylmethane UVA screen (see page 3, lines 40 to 41). Since it is common general knowledge, as conceded by both the Appellant and the Respondent, that by increasing the concentration of sunscreensing compounds in a composition, its SPF is thereby generally increased, the skilled person, seeking to improve the SPF of the composition of Example 5 of document (1), would modify said composition by increasing the concentration of one or more of the sunscreensing compounds therein, particularly within the weight ranges taught in document (1) itself for said sunscreensing compounds. Thus the skilled person would have increased the amount of the dibenzoylmethane sunscreen from 2 to  $\geq 4$  wt.% in the expectation that the resulting composition would have an improved SPF.

2.6.2 The Board concludes from the above that document (1), together with common general knowledge, gives the skilled person a concrete hint as to how to solve the

problem underlying the patent in suit, namely by increasing the amount of dibenzoylmethane sunscreens compound in the sunscreen composition of document (1) such that the resulting composition contains  $\geq 4$  parts by weight thereof. The skilled person, thus acting routinely, arrives at the claimed invention without the exercise of inventive ingenuity. In addition, document (2) specifically teaches that by increasing the concentration of the dibenzoylmethane UVA sunscreen Parsol A in a cream (see page 3, lines 11 to 12 and 17) from 2 to 4 wt.%, UVA protection was approximately doubled (see page 7, lines 1 to 4 and Table 2). This teaching provides the skilled person with an additional incentive to specifically increase the amount of the dibenzoylmethane UVA sunscreen.

2.7 For the following reasons, the Board is not convinced by the Respondent's submissions in support of the presence of an inventive step.

2.7.1 The Respondent argued that in view of the fact that the concentration of any of the other sunscreens compounds in the formulation of Example 5 of document (1) could have been increased in order to increase the SPF, the skilled person had no incentive to specifically select increasing the amount of dibenzoylmethane compound a) to solve the problem posed. Indeed, since the SPF primarily expressed a protective effect against UVB, when faced with the problem of improving the SPF, the skilled person would not have increased the amount of the dibenzoylmethane sunscreen, since this was a UVA screen, but would rather have increased the amount of one of the UVB screens.

However, the fact that the skilled person had several alternatives at his disposition when looking for a method of improving the SPF of a sunscreen composition has no impact on the assessment of obviousness, since a mere choice from a host of possible solutions does not in itself involve inventive ingenuity (see decision T 939/92, OJ EPO 1996, 309, points 2.5.2 and 2.5.3 of the reasons). In addition, as conceded by the Respondent, the SPF does not exclusively express a protective effect against UVB, but also against UVA, the SPF being measured over a wavelength range of from 290 to 400 nm (see paragraph [0038] of the patent in suit), i.e. inclusive of the UVA range of 320 to 400 nm (see paragraph [0003] of the patent in suit). The skilled person, wishing to increase the SPF, would thus increase the amount of dibenzoylmethane UVA screen, in the expectation of increasing the SPF.

2.7.2 The Respondent further argued that in view of the fact that dibenzoylmethane compounds were unstable and known to be highly insoluble, the skilled person would have expected stability problems when increasing its concentration in the compositions of document (1) and would therefore not have done so. Indeed document (1) deterred the skilled person from arbitrarily increasing the amounts of the various suncreening compounds therein, in view of its specific teaching (see page 3, lines 44 to 45) that because of the stability of the o/w emulsion, limits were imposed on the total amount of UVA and UVB screens.

However, document (1) itself already overcomes the drawbacks concerning the instability of UVA screens addressed in the prior art section therein (see page 2,

lines 39 to 48). Thus, since document (1) explicitly teaches that dibenzoylmethane compounds can be present in the photostable compositions in amounts up to 10 wt.% (see page 2, lines 40 to 41), the skilled person would not have been discouraged from increasing the amount of dibenzoylmethane compound in the composition of Example 5, at least insofar as he remained within the concentration range taught for said compound in this document. With regard to the limits imposed on the total amount of UVA and UVB screens, the passage on page 3, lines 44 to 45 of document (1) does not teach any specific limits therefor, such that the skilled person would not have been deterred from increasing the amount of dibenzoylmethane sunscreen within the amounts taught for this compound by document (1). The Board thus concludes that document (1) does not provide any deterrent to increasing the amount of dibenzoylmethane compound in the formulation composition of Example 5 described therein.

2.7.3 With regard to document (2), the Respondent argued that it related to compositions containing a single sunscreensing compound only, such that its teaching could not be transferred to compositions containing several different sunscreensing compounds, in view of their unpredictable interactions with one another.

However, when assessing inventive step it is not necessary to establish that the success of an envisaged solution of a technical problem was predictable with certainty. In order to render a solution obvious it is sufficient to establish that the skilled person would have followed the teaching of the prior art with a reasonable expectation of success (see decisions

T 249/88, point 8 of the reasons; T 1053/93, point 5.14 of the reasons; neither published in OJ EPO).

In the present case, the Board cannot agree with the Respondent's argument that due to some purported uncertainty about the predictability of success, the skilled person would not have contemplated increasing the amount of dibenzoylmethane sunscreens compound in the composition of Example 5 of document (1) in order to increase the SPF thereof. The skilled person has a clear incentive to do so (see points 2.6.1 and 2.6.2 *supra*). He only needed to confirm by routine experimentation that increasing the amount of dibenzoylmethane compound in the composition of Example 5 of document (1) indeed results in a composition with a higher SPF, thus arriving at the claimed invention without inventive ingenuity.

2.7.4 Finally, the Respondent argued that the *in vitro* SPF measurements presented in paragraphs [0039] to [0041] of the patent in suit showed that the claimed combination of sunscreens exhibited an unexpected synergistic effect, namely that the SPF of a formulation containing all four sunscreens in combination was significantly higher than the sum of the SPF's for each of the individual sunscreens a) to d).

However, document (1) already discloses a formulation comprising all four sunscreens a) to d), such that the above comparison is not with the structurally closest embodiment disclosed in document (1) and thus cannot demonstrate any unexpected effect *vis-à-vis* this prior art.

2.8 For these reasons, the subject-matter of claim 1 is obvious in the light of document (1), either taken together with common general knowledge, or in combination with document (2).

3. As a result the Respondent's request is not allowable for lack of inventive step pursuant to Article 56 EPC.

## **Order**

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

C. Rodríguez Rodríguez

C. Komenda